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## SECTOR 5 — CHART INFORMATION

## SECTOR 5

### CHILE—PUNTA LENGUA DE VACA TO CABO QUEDAL

**Plan.**—This sector describes the coast of Chile from Punta Lengua de Vaca to Cabo Quedal (40°58'S., 73°58'W.). The sequence of the description is from N to S.

#### General Remarks

**5.1** A number of bays and bights indent the coast and numerous rivers empty from it. The coast is high and level with a steep-to shore. It has few natural harbors with the exception of Valparaiso and several minor ports. The ports are mostly roadstead anchorages off the cliffy shore. A mountain range, with heights of up to almost 1,372m follows the general trend of the coast from about 2 to almost 20 miles inland. The Chilean Andes, with heights of up to about 7,620m, roughly parallel the coast about 65 miles inland.

In general, the coast is steep-to, but above and below-water dangers fringe many parts of the shore. Isolated soundings, some of which are doubtful, are charted up to 30 miles off the coast between the parallels of 35°10'S, and 36°25'S. These depths, which vary between 13 and 29m, may best be seen on the chart.

Archipelago de Juan Fernandez lies about 350 miles off this coast and is described in beginning in paragraph 1.20 .

Visibility may be reduced by fog which occurs about 1 or 2 days each month from January to August. Clouds hide the higher mountain peaks of the Andes and many of the coastal hills during much of the year.

**Winds—Weather.**—Close to Peru and N Chile, winds are predominantly S to SW throughout the year. Because of the strong pressure gradient between the coast and oceanic high located some distance at sea, these winds are persistent, becoming the SE Trades when they turn NW around the periphery of the South Pacific High. The strongest of these winds occur during the spring and early summer, when the contrast in temperature between the rapidly warming land and the still cool sea is the greatest. These winds often take on the characteristics of the sea breeze of marked intensity. Known locally as the "virazon," they may be of such strength as to halt loading or unloading of ships.

Along the Chilean coast, just S of Concepcion, there is an area where winter winds are frequently N. This zone separates the winds of N Chile, which are predominantly from the S quadrants, and the westerlies of S Chile. At Isla Mocha West, which is in this transition zone and a short distance off the coast near latitude 38.5°S, the wind is S in 60 per cent of the observations and N in only 10; however, these leading marks should not be used during a fog or during a severe wind. During January, while in the month of July, the percentages are 26 per cent from the S and 32 per cent from the N. South of this latitude, winds are from a W quadrant in more than half of the observations. Although winds from an E direction are not common, when they do occur with rising pressure, they bring fine weather over coastal waters. The extremely rugged nature

of the S coast of Chile contributes to a variability of winds in many locations.

A climatic control factor along the central portion of the coast, in the section between 3°S and 33°S, is the cool water of the Humboldt Current, or Peru Current, which sets NE to the coast of Chile where it is deflected to the N by the South American continent. Upwelling is a conspicuous feature of this current and results from the prevalent SE winds along the coasts of Chile and Peru which, over certain regions, carry the warm surface waters away from the coast and bring to the surface the cool waters from below. Between the areas of intense upwelling are warm tongues which carry water of higher temperatures onto the coast. However, the marked cooling over the regions of upwelling more than compensates for the warm tongues, and the net result is lower temperatures over adjoining coastal areas than would be otherwise normal for the latitude. Southward beyond the effect of the Humboldt Current, temperatures are actually higher than average for the latitude.

The S portion of the W coast of South America is under the influence of the oceanic westerlies and climate in the area is more maritime in nature than that experienced on the E coast at the same latitudes. This region is subject to strong and persistent W winds, the result of a strong pressure gradient existing between the semi-permanent Pacific High and the region of low pressure stretching from the general latitude of the South Orkney Islands and the South Shetland Islands, S into the Antarctic.

**Tides—Currents.**—The currents off the coast of Chile are influenced by the Peru Current, which sets to the NE southward of Isla Mocha. This NE current S of Isla Mocha sets vessels toward the coast, and caution should be exercised by vessels a short distance off the coast as the current has caused several shipwrecks. From Isla Mocha northward, the Peru Current follows the trend of the coast, setting between N and NNE. The direction of the current is influenced by the winds.

The current stream has a width of about 120 miles off Valparaiso and widens gradually to the N. The current velocity varies greatly along the coast of Chile. From Valparaiso N to Cobija, it has an average velocity of 15 miles per day, but may attain a velocity of 26 miles per day. However, it may be altogether arrested and sometimes reversed.

Strong onshore currents have been reported to exist between the parallels of 34°30'S, and 35°35'S, and should be guarded against.

Currents of a local nature are described in the various parts of this sector with the features off which they occur. Tidal currents are similarly described.

**Caution.**—Caution must be exercised because of the lack of sufficient soundings along many parts of this coast and the possibility of uncharted dangers. It has been reported that the charts do not conform with the actual coastal configurations in a number of places. In addition, coordinate values of charted positions may change due to the various differences of chart datum used within this sector.

Submarine exercise areas, extending up to 35 miles offshore, lie in waters within this sector and may be seen on the chart.

## Punta Lengua de Vaca to Bahia Quintero

**5.2 Punta Lengua de Vaca** (30°14'S., 71°38'W.) is low and rocky. It rises to a height of 70m about 0.8 mile S of its N extremity. A series of hills extends 1.5 miles farther S from the point to Monte Centinela Norte, about 211m high. A 10.1m patch lies a little over 0.3 mile NNE of the point. Roca Negra, a drying rock, lies almost 0.3 mile NW of Punta Lengua de Vaca. Another rock, which dries and is marked by kelp, lies about 0.3 mile W of the point. Vessels should stay at least 0.8 mile from the point.

A main light is shown from a white GRP tower with a red band, 4m high, standing on the point. A prominent radio mast stands close SE of the light tower.

Punta Aldea, about 2.3 miles SSW of Punta Lengua de Vaca, is low, rocky, and has a mound at its extremity.

Punta Farallones, about 4.8 miles SSW of Punta Aldea, is a small rocky peninsula with a high and pointed rock rising from its center.

Caleta Totoral de Lengua de Vaca indents the coast on the S side of Punta Farallones. It has a sandy beach on its NE shore and can easily be identified by a prominent peaked islet close N. The entrance is blocked by above and below-water rocks, and may be passed only by small boats in good weather.

Punta Villa Señor, about 13 miles SSW of Punta Lengua de Vaca, is wide, rocky, and fronted by above-water rocks. The mountains, about 3 miles E of the point, attain a height of 823m.

**Punta Talinay** (30°37'S., 71°44'W.) is low and rocky. The coast between Punta Talinay and the Rio Limari is backed by Altos de Talinay, of which the highest peak of 573m, lies about 5.5 miles NE of Punta Limari Norte. The summits of this range are covered with vegetation.

The Rio Limari, an inaccessible river, empties about 5 miles S of Punta Talinay. A dangerous reef extends about 0.8 mile NW from Punta Limari Norte, the low and rocky N entrance point. A below-water rock lies about 1 mile SE of Punta Limari Norte in the entrance of the river. Punta Limari Sur, the S entrance point, is low. There is a prominent white sandy patch on the latter point, and the land rises steeply farther inland.

**5.3 Punta Piedra Lobos** (30°48'S., 71°43'W.) is low and steep. Arrecife Piedra Lobos extends about 1 mile NNW from Punta Piedra Lobos. Piedra Lobos, some above-water rocks, lie on the outer extremity of Arrecife Piedra Lobos. Roca Pilcomayo (30°50'S., 71°43'W.), with a depth of 1.8m, lies about 0.5 mile offshore and 3 miles S of the point.

Punta Talquilla, about 5 miles S of Punta Piedra Lobos, is low and rocky and has a prominent white sandy patch on the point. Punta Talca, about 3 miles farther S, is also low and rocky.

Bahia Teniente recedes about 2 miles E between Punta Talca and Punta Gruesa, about 6 miles S. There is a sandy beach at the head of the bay and a sandy valley, Valle del Arenal, extends E from it. A sandhill is on the N side of the valley near the coast. A wreck lies stranded at the head of the bay.

**Punta Gruesa** (31°02'S., 71°41'W.) is steep, rocky, and fronted by submerged rocks.

Caleta Morritos occupies a small bight between Punta Morritos Norte, about 3 miles S of Punta Gruesa, and Punta Morritos Sur, about 1 mile S. The entrance points of Caleta Morritos are steep and rocky.

Caleta Sierra, a small cove, indents the coast between a point about 3 miles SSW of Punta Morritos Sur and Punta Sierra, almost 0.3 mile SW. A line of serrated peaks are located on Punta Sierra. Caleta Sierra can be recognized from the N by a large ravine at the head of the cove, which is visible up to 2 miles offshore. A group of above-water rocks lies close N of Punta Sierra.

**5.4 Punta Vana** (31°10'S., 71°41'W.) is fringed with rocks at its extremity and marked by a light. Caleta Derrumbe, a small cove with a sandy beach, lies 2.5 miles SSE of Punta Vana and may be identified by a large whitish patch on the hills near the S end of the cove.

Caleta Maitencillo de Coquimbo lies about 6 miles S of Punta Vana. The coast between consists of blue rocky cliffs, about 46m high. The land backing the cliffs rises to heights of between 91 and 122m. The mountain range backing the coast lies about 3 miles inland and reaches heights of 914 to 1,524m. Caleta Maitencillo de Coquimbo is a small cove about 0.2 mile wide in the entrance, but its shores are bordered by foul ground, leaving a very narrow channel, with a depth of 7.3m, which leads up the middle of the cove to within 68m of the beach at its head. The cove is suitable only for boats.

The cove can be identified by a large triangular patch of white sand on the slope of the hills on the N side of the cove.

**Punta Burro** (31°25'S., 71°37'W.) is the N entrance point of Caleta Oscuro. Foul ground extends about 0.1 mile SSW from Punta Burro. Two below-water rocks, which break, lie on this foul ground.

Caleta Oscuro occupies a bight between Punta Burro and a small unnamed point about 0.2 mile SE. The shores of the cove are rocky except at a sandy beach at its head. There is a small settlement in the cove. A dark-colored house is situated at the head of the cove. A pier, with a depth of 4.9m at its head, is situated on the N side of the head of the cove. Anchorage may be taken, in 20.1m, sand, by small vessels in the center of Caleta Oscuro. The anchorage is sheltered from NW winds and the holding ground is good.

A prominent hill, having a white apex, stands about 3 miles SE of Caleta Oscuro.

**Punta Amolanos** (31°35'S., 71°35'W.) is low and rocky, but there is a sandy beach N and S of it. From Punta Amolanos to Punta Ventana, the coast is fringed by foul ground which extends up to 0.5 mile offshore.

Punta Ventana, about 2 miles S of Punta Amolanos, is fringed by rocks which extend up to 0.5 mile SW. From Punta Ventana to the mouth of the Rio Choapa, the coast consists of a low sandy beach.

The Rio Choapa, close S of Punta Ventana, has sandbanks close off its entrance and is not navigable. Punta Pozo, the S entrance point of the Rio Choapa, is precipitous with a barren and smooth summit.

**Caleta Huentelauquen** (31°38'S., 71°32'W.) occupies a bight between Punta Poza and Punta Huentelauquen, about 1 mile S.

**5.5 Punta Loberia** (31°45'S., 71°34'W.) lies about 6 miles S of Caleta Huentelauquen. The coast between is steep-to and backed by a range of mountains about 3 miles inland, which attains a height of 800m. The point is rocky and has a conical hillock at its extremity. An above-water rock lies close off the point and submerged rocks and breakers extend about 0.4 mile seaward from the point.

The coast for 7 miles S of Punta Loberia recedes about 3 miles E to form a large bight. Within this bight are several smaller bights and anchorages. This section of the coast is steep-to and fringed by numerous below-water rocks and rocks awash. The coast is backed by a chain of mountains about 3 miles inland. Lower hills are located in the N part of this chain. Depths off this part of the coast vary from about 27.4 to 34.7m, sand and stones, about 0.5 mile offshore.

Rada Chigualoco is entered between Punta Loberia and Punta Panguécito, about 3.3 miles SSE. From Punta Loberia to the NW end of Caleta Chigualoco, about 1.8 miles ESE, the coast is generally low and rocky. Below-water rocks fringe the coast between Punta Loberia and Caleta Chigualoco from 0.3 to nearly 0.8 mile offshore. Bajos de Chigualoco lie about 1.5 miles SE of Punta Loberia. Rocas Conchas, two rocks awash, lie about 1 mile SE of Punta Loberia.

**Caleta Chigualoco** (31°46'S., 71°32'W.) occupies a bight between an unnamed point and Punta Rinconada, about 0.8 mile SE. The shore of the cove is a sandy beach. From Punta Rinconada to Punta Panguécito, about 1.8 miles SSW, the coast is low and rocky, except for the head of a small cove, Caleta Boca del Barco, which is sandy. An above-water rock, three drying rocks, and some below-water rocks lie in the center of the cove.

**Punta Pechonas** (31°50'S., 71°33'W.) is steep-to, rocky, and attains a height of 76m. Below-water rocks, which break, extend about 0.2 mile W from the point.

Isla Lilenes, about 1 mile NW of Punta Pechonas, has a greenish color. The channel between Isla Lilenes and Punta Pechonas has a navigable width of 0.2 mile and has depths of 14.6 to 20.1m, rock and sand. Roca Cebollin, awash, lies about 0.5 mile WNW of Isla Lilenes. There are depths of 29.3m less than 0.1 mile off the rock.

**Rada Tablas** (31°51'S., 71°34'W.) occupies a bight between Punta Pechonas and the NW extremity of Cabo Tablas, about 1.3 miles SW.

**Anchorage.**—Anchorage can be taken, in 21.9m, sand, with the E extremity of Isla Lilenes bearing 013° and the extremity of Cabo Tablas bearing 257°. This anchorage is well-sheltered during S winds, but it is exposed to winds between N and W.

**5.6 Cabo Tablas** (31°51'S., 71°34'W.) is a prominent headland marked by perpendicular cliffs, 84m high. The cape projects about 0.5 mile W from the coast and is about 0.5 mile wide. Cabo Tablas is fringed by foul ground to 0.5 mile offshore. A drying rock lies almost 0.3 mile W of the SW extremity of the cape. Roca Tablas, above-water, lies about 0.3 mile SW of the SW extremity of Cabo Tablas. A drying rock

lies almost 0.5 mile SSE of the SW extremity of Cabo Tablas, while a second drying rock lies 0.6 mile SE of the same position. A light is shown from the SW extremity of the cape.

Bahia Conchali recedes about 2 miles NE between Cabo Tablas and Punta Los Vilos, 4 miles SE. It is a large bay with several small bights. Bahia Conchali has general depths of about 36.6m about 1.5 miles offshore, decreasing gradually to 9.1m about 0.2 mile offshore. Several dangers and wrecks lie in the bay. Numerous rocks fringe the prominent points in the bay.

Isla Penitente, rocky and about 9.1m high, lies about 1.5 miles SW of the SW extremity of Cabo Tablas. Two rocks, awash, lie close off the W side of the islet. A light is shown from the island.

Isla Verde, about 18.3m high and steep-to, lies about 1.8 miles ENE of Isla Penitente. Rocks and foul ground fringe Isla Verde for about 137m. Rocas Verdes, one of which is above water, lie about 0.3 mile S of the W extremity of Isla Verde.

Islotes Blancos, a group of steep-to islets and rocks, lie about 0.5 mile SE of Rocas Verdes. The largest is about 14.3m high. Islote El Fantasma, NE and 5.2m high, is prominent due to its blackish color.

Caleta Nague occupies a small bight between Punta Conchas, about 1.5 miles E of the SW extremity of Cabo Tablas, and Punta Penitente, about 0.7 mile SE. The cove has depths of 7.3 to 18.3m in the entrance, decreasing gradually toward the N shore. It is the only place in Bahia Conchali where vessels find shelter from NW winds. A wreck, the boiler of which is visible, lies in Caleta Nague.

Punta Penitente is steep-to and attains a height of 35m. It has a remarkable rock at its extremity. A hill, 130m high, stands back of the point.

Ensenada Agua Amarilla recedes about 0.5 mile NW between Punta Penitente and Punta Chungo, about 1.5 miles SE. The shore is a yellow sandy beach, on which the sea breaks heavily. It provides no shelter and is not recommended for anchorage. Punta Chungo is sandy, whitish in color, and rocky at its extremity.

**Punta Los Vilos** (31°55'S., 71°32'W.) is low and rocky. Isleta Chungungo, 3.3m high, rocky and closely fringed by rocks, lies about 0.1 mile offshore SW of the SW extremity of the point.

Isla Huevos, about 0.5 mile WNW of Punta Los Vilos, is rocky, barren, and yellowish. It is about 43m high at its SW end. A light is shown from the island. A reef on which the sea breaks connects the island to Punta Los Vilos.

**5.7 Puerto Los Vilos** (31°55'S., 71°31'W.) ([World Port Index No. 14540](#)) indents the coast about 0.7 mile SE between Punta Chungo and Punta Los Vilos, about 1.5 miles SSW. The small port lies at the S end of the bay. A lighter pier is situated here. Vessels load and discharge to lighters at the anchorage. Pilots are unavailable. It is reported that the pier is out of service.

**Winds—Weather.**—Westerly winds during the winter cause a heavy swell in Puerto Los Vilos. The sea breaks between Isla Huevos and Isla Blanca and between Isla Huevos and Punta Los Vilos, where it makes a foam which drifts into the bay and gives the appearance of breakers when a large swell is running. Vessels can find shelter in Caleta Nague during NW gales.

Fogs are most frequent in the months of October and November, but may also occur in May.

**Aspect.**—A conspicuous white tank stands in the port. Two lights at the railroad station in the port are reported to be visible at a distance of about 10 miles seaward.

There are depths of from 18.3 to 27.4m in the entrance, decreasing gradually toward the shore. Bajo Chacabuco, a 10m patch, lies almost 0.7 mile NE of the N extremity of Isla Huevos. Bajo Baquedano, an 8.7m patch, lies about 0.2 mile N of Isla Huevos. Bajo O'Higgins, a 10.1m patch, lies almost 0.3 mile NE of Isla Huevos. Bajo Abtao, a 5m patch, lies about 0.3 mile offshore, about 0.8 mile ENE of Isla Huevos. Bajo Castro, another 5m patch, lies almost 0.3 mile N of the town of Los Vilos and about 0.7 mile E of Isla Huevos. Roca Desempeno, a drying rock, and Bajo Lynch, with a depth of 2m, lie 0.6 and 0.5 mile E of the island.

**Anchorage.**—Vessels can anchor about 0.5 mile N of Punta Los Vilos in 25.6 to 32.9m. Anchorage may also be taken or vessels may secure to a mooring buoy about 0.3 mile N of the town. The SW swell reaching the anchorage is heavy with W winds in the winter.

**5.8** The coast for 20 miles S of Punta Los Vilos is indented by numerous small bights. It is generally steep-to, with intermittent sandy beaches, and fringed by rocks and foul ground to almost 1 mile offshore. The coast is backed by a chain of mountains which lie up to 10 miles inland.

Ensenada Quereo is a small unimportant bight about midway between Punta Los Vilos and Punta Lobos, about 2.3 miles SSW. The coast between Punta Los Vilos and Punta Lobos is fringed with foul ground which breaks to a distance of about 0.2 mile offshore.

**Punta Lobos** (31°57'S., 71°33'W.), about 23m high, is fringed by foul ground to about 0.5 mile offshore. Islote Lobos, about 4.2m high, lies about 0.1 mile offshore W of the point. A reef, on which the sea breaks in bad weather, lies almost 0.3 mile WNW of Punta Lobos. Islote Negra, a little over 0.5 mile offshore S of the point, is closely fringed by dangerous rocks, and between it and Punta Lobos, there are dangerous rocks.

From Punta Lobos to Punta Purgatorio, about 1.5 miles ESE, the coast is fringed by numerous rocks and foul ground which breaks to a distance of 0.5 mile offshore. This part of the coast is exposed to the constant SW swell and is dangerous to approach.

Punta Changos, low and rocky with some above-water rocks close off it, lies about 3.5 miles S of Punta Lobos.

**5.9 Ensenada Totoralillo** (32°01'S., 71°32'W.) indents the coast between Punta Changos and Punta Totoralillo, about 1.5 miles S. An islet and numerous below-water rocks lie in the center of the bay. There is a sandy beach at the head of the bay. A prominent iron bridge, about 43m high, spans a ravine at the head of the bay. Punta Totoralillo is low and rocky with numerous rocks which extend about 0.3 mile SW from the point.

Punta Quelen, about 5 miles S of Punta Totoralillo, is low and rocky. Roca Negra, an above-water rock, lies almost 0.5 mile offshore about 2 miles NNW of Punta Quelen. Bajo Tapado, which dries about 0.9m, lies about 0.8 mile offshore

about 2 miles NNW of Punta Quelen. The passage between Bajo Tapado and the mainland is foul.

**Puerto Pichidangui** (32°09'S., 71°33'W.) recedes about 1 mile E between Punta Quelen and Punta Salinas, about 1.5 miles SSW. The bight affords a completely sheltered anchorage from the SW, but is exposed to the sea during NW winds. The holding is poor and large vessels should use the bay as a temporary anchorage only. The Rio Quilimari, which flows into the head of the bay, is spanned by two prominent bridges about 125m apart which lie about 0.5 mile above the mouth of the river. A wreck lies in about 4.6m of water, near the NE shore of the harbor off the mouth of the Rio Quilimari.

Pichidangui, on the SW shore, is a summer resort which is used by fishing craft.

Roca Casualidad, with a depth of 1.8m or less, lies about 0.2 mile NE of the N extremity of Isla Locos, located close N of the S entrance point of the bay. The rock is about 183m long, E to W, and breaks with a heavy swell.

**Anchorage.**—The best anchorage, in about 16.5m, lies about 0.2 mile E of Isla Locos. The anchorage area is shaped like a horseshoe. It is protected from NE winds, but not from SE winds, which cause a swell to enter the anchorage area.

Punta Salinas, the S entrance point of Puerto Pichidangui, is low, rocky, and dark. Cerro La Silla del Gobernador (Santa Ines), saddle-peaked and about 695m high, stands 2.5 miles SE of the point. The coast for about 5 miles S of the point is irregular, dark-colored, and rocky. It is fringed by foul ground to about 0.5 mile offshore.

A prominent tank stands 0.3 mile SE of Punta Salinas. A parabolic aerial is situated 500m NW of the tank.

**Punta Huesos** (32°10'S., 71°33'W.), about 2 miles S of Punta Salinas, is low and rocky. Rocks extend about 0.3 mile W from Punta Huesos. Punta Ventana, about 1 mile S of Punta Huesos, is also low and rocky. Below-water rocks extend up to 0.3 mile off Punta Ventana.

Punta Puquen, about 5 miles SSE of Punta Salinas, is about 40m high and steep-to. A blow hole, which pierces it, can be heard for a considerable distance. A small prominent islet lies about 0.2 mile SW of Punta Puquen.

**5.10 Punta Molles** (32°14'S., 71°32'W.), about 3.8 miles SSE of Punta Huesos, is low, dark-colored, and rocky. Foul ground extends about 0.4 mile S from it. The coast for 30 miles S of the point is indented by several large bays. It is steep-to, rocky in places, and interspersed with long sandy beaches. The prominent points are fringed with above and below-water rocks. The coast is backed by a chain of mountains which lie up to about 10 miles inland.

A conspicuous concrete railway bridge is situated in position 32°07'S., 71°32'W. A road bridge is situated 125m away from, and parallel to, the railway bridge.

**Caleta Molles** (32°16'S., 71°29'W.) occupies a cove about 3 miles SE of Punta Molles. There is a sandy beach at the head of the cove. Small vessels should anchor in this cove only in case of necessity.

Punta Pichicui, about 4 miles S of Caleta Molles, is steep-to and rocky. The point has a white cross, painted on a green background, which are visible from the S. Caleta de Pichicui occupies a bight between Punta Pichicui and Punta Gualla-

rauco, about 2.5 miles SE. The shore of the bight is a sandy beach. Anchorage may be taken by small vessels, in 14m, sand, about 0.2 mile SW of a large storage building on the shore.

Roca Bogata, with less than 1.8m over it and depths of from 21.9 to 25.6m close around, lies about 1.5 miles SSW of Punta Pichicui. Caution is advised, and the coast in the vicinity of Roca Bogata should not be approached within 2 miles.

Caleta Ligua recedes about 1 mile E between Punta Guallarauco and Punta Ligua, about 2 miles SSE. The NE shore of the cove is fringed by reefs for almost 0.8 mile and the E shore is fringed by reefs and foul ground to about 0.4 mile offshore. The cove is constantly beaten by surf. Anchorage may be taken by small vessels, in about 13.9m, about 0.5 mile NE of Punta Ligua. The Rio Ligua flows into the SE corner of the cove. Local knowledge is required to enter. A dangerous below-water rock, over which the sea occasionally breaks, lies about 0.2 mile NW of Punta Ligua.

**Caution.—Bajo Dayot** (32°24'S., 72°16'W.), with a least reported depth of 30m, lies about 43 miles W of Punta Ligua.

Punta Canas, about 2.5 miles S of Punta Ligua, is rocky. Isla Lobos, about 1 mile S of Punta Canas, is low and rocky. It is prominent due to its whitish color.

**Puerto Papudo** (32°30'S., 71°28'W.) lies between Isla Lobos and Punta Pite, about 2 miles SW. The town of Papudo, a summer resort, is situated at the S end of the bay about 1 mile SE of Punta Pite.

Monte Papudo, a conical mountain about 457m high, is located about 1.3 miles SSE of Punta Pite and is a good landmark. Cerro El Gobernador about 692m high, stands 0.5 mile S of Monte Papudo.

From Punta Lilen, about 1 mile SSE of Isla Lobos, to an unnamed point about 0.3 mile S, the coast is low and rocky. From the unnamed point to a position about 1 mile SW, the coast consists of a sandy beach; thence to Punta Pite, almost 1 mile WNW, the coast is steep-to and rocky.

A pier, equipped with a small crane, is situated 0.8 mile ESE of Punta Pite. The port is mostly used by fishing vessels and pleasure craft.

Puerto Papudo is exposed to SE winds, which predominate in winter. Fog is most frequent in March, April, and October.

**Anchorage.**—The best anchorage is in the S part of the bay, in 20.1m, fine sand, about 0.3 mile N of the pier. It is unsafe during the three winter months.

**5.11 Punta Pite** (32°30'S., 71°29'W.) is low and rocky, but is reported to give a good radar return. It is fringed on its NW side by rocks and islets. Roca Baja, the largest, lies close NW of the point. Above-water rocks and foul ground extend about 0.1 mile N from Roca Baja. From Punta Pite to Punta Panulcillo, about 1.5 miles SSW, the coast is steep-to and rocky. Punta Panulcillo, low and rocky, is fringed by foul ground to a distance of about 0.2 mile.

Puerto Zapallar, a resort, lies about 3 miles S of Punta Pite. The bay indents the coast between Punta Isla Seca and Isla Liles, almost 0.5 mile SSW. The bight has general depths of about 27.4 to 50m across its entrance, which decrease gradually toward the shore. Zapallar, a small summer resort, is situated on the S shore of the bight. The shore of Puerto Zapallar is rocky except at its head, where there is a sandy beach.

Anchorage can be taken, in 21.9m, sand, about 0.3 mile NE of the summit of Isla Liles.

Isla Liles is connected to the mainland by a sandy beach. Punta Zapallar consists of a drying reef which extends about 0.1 mile W from Isla Liles.

Punta Peumo lies about 2 miles SSE of Isla Liles. The coast between is steep-to and rocky. Punta Peumo, which provides a good radar return, is also bold and rocky. Islote Cachagua, about 26m high, lies about 0.1 mile SW of Punta Peumo. From Punta Peumo to Punta Maitencillo, about 3.5 miles S, the coast consists of a sandy beach, except for Punta Frutillar, about halfway between these two points, which is low and rocky.

Caleta Maitencillo de Valparaíso is a small cove between Punta Quiscos, about 0.2 mile NNE of Punta Maitencillo and Punta Chacarilla, about 0.3 mile NE. The cove is used only by boats, which can land at a small sandy beach at its head. Anchorage can be taken by larger vessels, in 16.5 to 18.3m, sand, off the mouth of the cove. Vessels must be prepared to put to sea during W winds.

Punta Maitencillo, at the S end of Caleta Maitencillo de Valparaíso, is steep-to and rocky. The point is reported to give a good radar return. Above and below-water rocks, which break, extend up to about 0.2 mile NW of the point.

Punta Horcon lies about 5 miles SW of Punta Maitencillo. The coast between recedes about 2 miles SW to form a large bight. Caleta Horcon lies in the S part of the bight about 1 mile E of Punta Horcon. Anchorage can be taken, in 20.1m, fine sand, about 0.3 mile N of the W entrance point of Caleta Horcon. Punta Horcon, dark in color, is cliffy and has a conspicuous hole in the extreme point of the cliff. The point serves as a good radar target. The coast, closely backing the cliffs, is level and from 88 to 101m high. The peaks farther inland reach greater heights and the Andes can be seen in the distance.

Farallones de Quintero, a group of low rocks of dark color, lie on a shoal bank located about 1 mile NW of Punta Horcon; a stranded wreck lies on the N part of the shoal bank. Roca Chandler, which breaks in bad weather and has 3.7m over it, lies about 0.8 mile SW of Farallones de Quintero.

**Punta Ventanilla** (32°45'S., 71°30'W.), the N entrance point of Bahía Quintero, lies about 2 miles SSE of Punta Horcon. The point is a small headland.

An aeronautical radiobeacon is situated close N of the point.

## Bahía Quintero (32°46'S., 71°32'W.)

[World Port Index No. 14510](#)

**5.12 Bahía Quintero** lies between Punta Ventanilla and Punta Liles, about 2.3 miles SW. The bay is sheltered during S winds, but it is open to the NW.

**Winds—Weather.**—In Summer, the winds in Bahía Quintero are mainly SW, blowing the strongest in December; in the winter, N winds prevail.

Fogs are most frequent in the months of April and May.

**Tides—Currents.**—The mean tidal rise here is 1.2m, while the spring rise is 1.5m.

Strong S sets have been reported on a spring flood tide.

**Aspect.**—A main light is shown from a prominent tower 16m high, standing on Peninsula Los Molles. A prominent

tank stands about 0.1 mile E of the light tower. A red and white banded chimney stands 0.9 mile SE of the light on Peninsula Los Molles. Two conspicuous white buildings stand about 1.3 miles E of the chimney, while a conspicuous group of tanks stand just E of a small craft pier lying 0.5 mile NNE of the buildings. A chimney, marked by white flashing obstruction lights, lies 0.7 mile NE of the pier. Two chimneys, marked by red flashing obstruction lights, stand at the root of the ore pier, while a radio tower, marked by obstruction lights, lies 0.9 mile N of the pier's head. The conspicuous sheds of the copper factory stand about 0.6 mile NE of the ore pier.

Peninsula Los Molles, of which Punta Liles is the N extremity, attains an elevation of 68m and forms the SW side of the bay. The peninsula is fringed by foul ground extending up to 0.2 mile from its shores.

Bajo Las Malenas, a detached rocky patch with a least depth of 10.6m, lies about 0.5 mile WNW of Punta Liles. This patch should be avoided as it breaks heavily and may have a less depth over it. Bajo Zenteno, a rocky patch with a least depth of 14.6m, lies about 0.5 mile WSW of Punta Liles.

**Depths—Limitations.**—Muelle Ventanas is a 1,115m long multipurpose cargo handling facility. Three berths are located on the N side of the pier, while another berth is located on the S side of the pier. The pier is located on the E side of the bay, with berthing facilities, as follows:

1. Berth No. 1—Can accommodate vessels up to 160m long, with a maximum draft of 6.9 to 10.5m.
2. Berth No. 2—Can accommodate vessels up to 200m long, with a maximum draft of 7.5 to 10.2m.
3. Berth No. 3—Can accommodate vessels up to 45,000 dwt, with a maximum length of 200m and a maximum draft of 11.5m.
4. Berth No. 4—Can accommodate vessels up to 70,000 dwt, with a maximum length of 240m and a maximum draft of 14.3m.

Vessels are moored and unmoored during daylight hours only.

There is a single pier 725m long, with depths alongside ranging from 9.8 to 19m. On the S side of the pier is a berth with four dolphins, which provide frontage of 180m, accommodating vessels of 160m loa and a 9.1m draft. Copper concentrates are handled by belt conveyor for loading at the rate of 1,000 tons per hour. The berth is also used for discharging bulk grain, but vessels have to move along the berth to unload each hatch, owing to the fixed loading tower.

Range lights indicate the approach to the pier and sets of range beacons assist with approaching the berths.

Muelle Asimar is a smaller berth used for loading copper.

Vessels up to 95m loa can be accommodated, with a maximum draft at HW of 5.2m. There are also fish canneries and fishmeal plants.

The Empresa Nacional de Petroleo (ENAP) Pier, on the E side of the bay, is 200m long and used by service craft.

Muelle Oxiquim lies almost 0.9 mile S of Muelle Ventanas. It is 832m long and is used for handling bulk chemical and liquid gas cargo. Vessels may berth on either side of the jetty, but due to the constant heavy swell in the bay, surging and ranging is commonly experienced when berthed alongside. Local sources should be contacted for details of depths, maximum size, and other information.

The ENAP Oil and Gas Terminals are located W of the ENAP Pier; vessels are accommodated at mooring buoys. The oil terminal can accept vessels up to 90,000 dwt, with a maximum length of 250m and a maximum draft of 12.9m. The gas terminal can accept vessels up to 40,000 dwt, with a maximum length of 182m and a maximum draft of 10.1m. Vessels are moored during daylight hours only.

The ENAP Superbuoy lies NW of the ENAP pier and is connected to shore via a pipeline. Tankers up to 209,000 dwt, with a maximum length of 342m and a maximum draft of 24.3m, can be accommodated in a depth of 47m. Vessels are berthed during daylight hours only.

**Pilotage.**—Pilotage is compulsory. The pilot boards in the waiting area located 1.4 miles NE of the light on Peninsula Los Molles. The vessel's ETA should be sent to the agent 72 hours before arrival, with confirmation sent 24 hours before arrival. The port can be contacted by VHF channel 9, 14, or 16 and radiotelephone.

**Regulations.**—An IMO-adopted Traffic Separation Scheme lies in the approaches to Bahia Quintero and may best be seen on the chart. The inbound traffic lane is situated S of the separation zone.

**Anchorage.**—In general, vessels can anchor anywhere in the bay clear of the Prohibited Anchorage Area, and the dangers in the SW portion of the bay, keeping in mind the Traffic Separation Scheme. Depths range from 14.6 to 20m. Caution should be exercised when anchoring, however, as the bay is open to NW winds, and possesses poor holding ground; vessels are liable to drag when the cable begins to work.

The best berth for large vessels in SW winds is about 0.9 mile E of the light shown from Peninsula Los Molles, in depths of 15 to 20m, over a sand and mud bottom. It has been reported that large tankers anchor about 1 mile N of the SPM, in depths of 65 to 70m, bottom quality unknown.

**Caution.**—A prohibited anchorage area includes the entire inshore portion of the bay and the waters around the SPM. Vessels are advised to consult the local authorities and the pilot for information concerning the prohibited area before anchoring in the port.

Vessels moored at the offshore pipeline berths are advised to exercise caution as bad weather, particularly that associated with NW winds, may disrupt cargo operations.

## Bahia Quintero to Valparaíso

**5.13 Punta Artesas** (32°47'S., 71°33'W.) lies about 1 mile SSW of Punta Liles. Foul ground fronts the point. Cerro Centinela, about 0.4 mile SSE of Punta Artesas, is almost 91m high and marked on its summit by a conspicuous white wooden cross with a water tank standing close S of it.

Punta Ritoque lies about 6 miles S of Punta Artesas. The coast between is generally of a moderate elevation, backed by smooth rolling hills which have a barren and weather-beaten aspect. Playa Ritoque, a sandy beach, extends for about 3.5 miles SSE of Punta Ritoque and is closely backed by sand dunes of a whitish color.

Rocas Concon, a group of above and below-water rocks, lie about 2.5 miles SSW of Punta Ritoque. Caution should be exercised in approaching Rocas Concon, as a current sets toward them from S and there is usually a swell.

Islote La Isla, 8m high, is the largest of several above-water rocks which lie on a reef extending up to 0.8 mile from the shore about 3.5 miles SSE of Punta Ritoque. The Rio Aconcagua flows into the sea about 1.5 miles S of the islet.

**Punta Concon** (32°56'S., 71°34'W.) lies about 6.3 miles S of Punta Ritoque and is the NE entrance point of Bahía de Valparaíso. The point is steep-to and radar prominent. Foul ground extends up to 0.2 mile on the N side of the point.

**Anchorage.**—Anchorage, sheltered from SW winds, but exposed to N winds, is available in Caleta Higuera E of Punta Concon. Vessels can anchor with the head of a marina breakwater bearing 220°, 0.4 mile distant, in a depth of 15m, sandy bottom.

## Valparaíso (33°02'S., 71°37'W.)

World Port Index No. 14500

**5.14** Bahía de Valparaíso, entered between Punta Concon and Punta Angeles, 7 miles SW, is the most important harbor in Chile. Valparaíso, the principal container port on the W coast of South America, lies along the S shore of the bay. Bahía de Valparaíso is well-sheltered except from N and NW winds during the winter season, which leave shipping exposed, although the breakwater provides shelter for the wharves and for the small anchorage area. Winds from the SW can cause problems in the afternoons for vessels berthing or sailing.

The harbor is protected by a breakwater which extends from Duprat Point 300m, bearing 080°, then 600m bearing 140°, and 100m bearing 135°. The Chilean Navy uses the rest of the breakwater for mooring and shelter.

**Winds—Weather.**—A "Norther" frequently passes over Valparaíso without doing damage, but occasionally its effects are disastrous. Vessels poorly situated or anchored have been driven ashore by the wind. One anchor with a long scope of chain, a spare anchor ready, and the ship ready for sea are advisable precautions to take in riding out a "Norther." Vessels sometimes prefer riding near the shore due to the undertow, but there is more risk of being fouled by other vessels and the sea is felt considerably.

During the summer, S gales blow in squalls off the heights. However, the sea breeze has been reported to blow so strongly on summer afternoons that people seek shelter, and communication between vessels in the bay and the shore becomes difficult.

Clear weather and a high barometer precede strong S winds. Cloudy weather and a low barometer, accompanied by the remarkable visibility of such distant land as the heights near Puerto Papudo or Puerto Pichidangui, indicates N winds. At any time, but especially during the months of June, July, and August, strong N winds which reach gale force and last from 24 to 36 hours may close the port to shipping. However, an average of only one or two such storms strike Valparaíso each year. The climate at Valparaíso is mild.

Fog occurs more frequently during March through May than the other months of the year. The fog may be so dense that it impedes navigation. Under these conditions, vessels making landfall may be guided by radar. During the spring and summer months from September to March, the surf at Bahía de Valparaíso is appreciable, but not great enough to seriously hamper

any operation. There is a steady swell resulting in breakers of 0.9 to 1.5m all along the shore, except in the area within the breakwater.

During the fall the surf becomes heavier, but small boats may be launched on all except the windiest days. During the winter from June through August, there are heavy swells, except on rare calm days, which prohibit normal small boat operations. Breakers usually average 2.1 to 2.4m during the winter or may be greater for 3 or 4 days after each occasional heavy storm.

**Tides—Currents.**—The mean tidal range here is 0.9m, while the spring range is 1.2m.

During N winds there is a set toward the W shore of the bay. During S winds, no set is perceptible.

**Depths—Limitations.**—The artificial harbor on the W side of the bay is formed by Molo de Abrigo, a breakwater, which extend 0.1 mile ENE to an elbow, then 0.4 mile SE.

Eleven numbered berths exist throughout the port area, ten of which are available to ocean-going vessels. No details are presently available on Berth No. 11, which lies between the N end of Berth No. 1 and the angle of the breakwater. It is reported to be used by fishing vessels. Naval vessels utilize berths along the inner face of the breakwater.

Vessels up to 220m in length and 9.6m draft can be accommodated in the harbor.

The main quay on the W side of the harbor consists of Berth No. 1 through Berth No. 5, numbered N to S.

Muelle Pratt, extending SE from the root of Berth No. 5 to the root of Berth No. 6, is usable by small craft and yachts.

Espigon de Atrake forms the SE end of the harbor and extends about 0.1 mile NNE. Berth No. 6, Berth No. 7, and Berth No. 8 are situated alongside this pier.

Muelle Baron, 0.8 mile ESE of Espigon de Atrake, extends about 0.1 mile NNW from the S shore of the bay. Berth No. 9 and Berth No. 10 are situated alongside the pier.

Valparaíso—Berth Information		
Berth	Length	Depth
No. 1	175m	8.2m
No. 2	180m	9.6m
No. 3	240m	9.6m
No. 4	212m	9.3m
No. 5	105m	9.0m
No. 6	170m	8.3m
No. 7	110m	6.6m
No. 8	180m	8.1m
No. 9	150m	9.0m
No. 10	90m	6.0m

A tanker and bulk liquid cargo terminal, consisting of three offshore multi-point moorings connected to submarine pipelines, lies at Las Salinas, about 3.8 miles NE of the breakwater head. The maximum admissible length is 210m, with a depth of 14.9m. The local authorities should be consulted for the

latest information on this terminal before attempting to berth here.

Mooring buoys are situated in areas close NNE of Muelle Baron and Espigon de Atraque.

The port has repair facilities and a floating drydock is situated E of Espigon de Atraque.

**Aspect.**—Punta Angeles, the SW entrance point of the bay, is high and rocky. Rocas Buey, two dangerous rocks, lie on foul ground which extends about 0.3 mile NW, N, and E of the point.

The city of Valparaiso sits on the hills surrounding the bay in the shape of an almost perfect amphitheater.

Punta Gruesa, where a light is shown, lies about 2.8 miles ESE of Punta Angeles and is prominent. Bajo Ester, a shoal patch with a least depth of 6.6m, lies about 0.6 mile WSW of the point. Isolated depths of 2.6 and 3.5m lie 0.2 mile SSW of Bajo Ester.

Numerous dangerous wrecks lie within the waters of the port and can best be seen on the chart.

From the N the buildings of the city are reported to be visible for a great distance in clear weather, while the city lights can be seen up to 40 miles away.

The Presidential Palace and several governmental buildings standing about 3.8 miles E of Punta Angeles on Cerro Castillo are conspicuous, as is a university campus, 0.8 mile SW of Punta Gruesa. A group of conspicuous buildings, which form the Naval School, stands on Punta Angeles and the conspicuous building of the Naval War Academy stands on the top of a cliff about 0.5 mile W of the breakwater head. From the S, the cemetery at the W side of Punta Angeles is conspicuous.

A main light is shown from a conspicuous tower 18m high, standing at the NW side of Punta Angeles. A radiobeacon is situated at the light tower. A main light is shown from a prominent tower, 15m high, standing on the elbow of the breakwater. Lights are shown from the breakwater head and Punta Gruesa.

Numerous other prominent buildings and masts with obstruction lights stand on the surrounding hills.

Two sets of visual ranges, utilizing the light on the breakwater elbow as a common front beacon, are available for compass adjustment within Bahia de Valparaiso.

**Pilotage.**—Pilotage is compulsory. Pilots board in an area about 0.8 mile ENE of the breakwater head. Vessels should send their ETA 24 hours and 4 hours in advance. Pilots may be contacted on VHF channel 9, 14, or 16.

In fog, radar guidance can be provided on request by VHF.

Pilots are also available at Valparaiso for vessels intending to navigate the coast and channels S of 41°S.

**Regulations.**—Tankers approaching or leaving the terminals at Las Salinas are not required to use the traffic lanes.

During heavy SW swells, vessels may be required to put to sea to avoid damage to docks and ships.

An IMO-adopted Traffic Separation Scheme lies in the approaches to the port and can best be seen on the chart. The inbound traffic lane is situated W of the separation zone.

**Signals.**—Weather signals are shown from a signal mast located on the Port Captain's building situated close SSW of the S extremity of the W side of Espigon de Atraque, as follows:

1. A blue pennant, with a white circle or a green light—Indicates variable weather.

2. One black sphere, or a red light.—Indicates bad weather with N winds of force 4 to 7.

3. Two black spheres, or two red lights—Indicates stormy weather.

**Anchorage.**—Vessels wishing to anchor should include a request for a suitable anchorage with its 24-hour ETA message.

An anchoring and mooring area lies close E of the pilot waiting zone and is shown on the chart. Vessels less than 100m in length anchor in an inshore area best seen on the chart. The explosives anchorage is situated with the light on the breakwater head bearing 233°, 2.9 miles distant, in charted depths of 58 to 61m.

Vessels are advised by the local authorities to anchor with a good scope of cable, with a second anchor ready to let go. With stormy weather, the vessel should be ready to put to sea.

**Caution.**—Submarine cables extend SW from the floating drydock to the root of Espigon de Atraque.

Numerous wrecks and obstructions lie within the vicinity of the port and may best be seen on the chart.

Vessels using the Inshore Traffic Zone are recommended to stay well clear of the dangers fronting Punta Angeles.

Numerous fishing vessels may be encountered in the approaches to the port.

Winds from the N may render the berths alongside Muelle Baron unusable.

A prohibited anchorage area, the limits of which may be seen on the chart, lies E and S of the breakwater.

## Bahia de Valparaiso to Puerto San Antonio

**5.15** Between Punta Angeles and Puerto San Antonio, about 33.3 miles S, the irregular coast is indented by numerous bays and bights. It is rugged and steep-to in places, and interspersed with sandy beaches. Most of the coast is backed by low hills. Above and below-water rocks fringe the prominent headlands to a distance of about 2.5 miles offshore.

**Bahia Laguna Verde** (33°06'S., 71°42'W.) lies between the W side of Punta Angeles and Punta Curaumilla, about 6.5 miles SW. The bay is bordered by cliffs, except at its head, where there is a sandy beach. There are depths of about 91m across the entrance, decreasing gradually toward shore. A strong current has been observed to flow into the bay. A pier, belonging to a conspicuous power station, extends about 30m into the bay from a position about 3.3 miles E of Punta Curaumilla. Mooring buoys in 13.7m, about 0.2 mile NNE of the pier. There is also a mooring buoy 0.2 mile NNW of the head of the pier. Anchorage can be taken in the bay, in an emergency, in about 50m, about 0.5 mile offshore. The bay is protected from S winds, but is completely exposed to N winds.

**Punta Curaumilla** (33°06'S., 71°45'W.) is steep-to and rocky. A light is shown from the W extremity of the point. Islote Lobos, rocky and of yellowish-white color, lies about 0.1 mile offshore, about 0.2 mile W of the above-mentioned promontory. Punta Curaumilla is reported to provide a good radar return.

Cerro La Campana de Quillota, about 1,890m high, lies about 26 miles ENE of Punta Curaumilla and can be seen in clear weather. With exceptionally good weather, the Andes

Mountains are visible and Volcan Aconcagua may be identified easily because of its great height. It is 6,949m high and lies about 90 miles ENE of Punta Curaumilla.

Monte Curauma, about 5 miles SE of Punta Curaumilla, lies about 0.5 mile inland and attains an elevation of about 457m. This summit is generally the first land which can be made out distinctly when approaching Bahía de Valparaíso from the S.

Rada de Quintay occupies a bight between Punta Curaumilla and Punta Loros, about 6 miles SSE. The shore of the bay is cliffy, except at its head where there is a sandy beach. Anchorage, with poor holding ground, may be taken about 0.8 mile NNE of Punta Loros. A small pier, with some mooring buoys, is situated at an abandoned whaling station in the S part of the bight and is used by local fishing craft. Lights are occasionally shown from the shore to assist vessels entering the cove.

**Punta Loros** (33°12'S., 71°42'W.), which is reported to give a good radar return, is steep-to, rocky, and about 50m high. Roca Fraile, a small rocky islet, lies off Rada de Quintay, about 0.8 mile offshore NNW of Punta Loros. Punta Gallo, located about 3 miles S of Punta Loros, is a dark steep-to headland, about 69m high.

Rada El Algarrobo is entered between Punta Rincon (33°19'S., 71°40'W.) and Punta Pena Blanca, about 3.5 miles farther SW. The village of Algarrobo stands on the S shore of the roadstead and is a pleasure resort. A light is shown from Islote Pajaros Ninos, located about 0.5 mile NE of Punta Pena Blanca. Numerous rocks, shoals, and islets lie in the approaches to the roadstead and can best be seen on the chart. Los Farallones, a group of above and below-water rocks, are the outermost danger and lie about 1 mile N of Punta Pena Blanca.

**Anchorage.**—Anchorage can be taken in the S part of Rada El Algarrobo, in 20.1 to 22m, sand and rock, about 0.5 mile offshore. Local knowledge is advised.

**5.16 Punta Pena Blanca** (33°21'S., 71°42'W.), the S entrance point of Rada El Algarrobo, is a flat-topped rock about 15.2m high. It is a good landmark. The sides of the rock are precipitous and of a whitish-gray color, which is prominent against the darker background. The rock is joined to the mainland by a spit which covers only during unusually high tides. Care must be taken not to confuse Punta Pena Blanca with Punta Talca, about 4 miles S.

Breakers extend 0.5 mile offshore, about 0.4 mile S of Punta Pena Blanca, and there are breakers to the W and NE of the point.

**Punta Talca** (33°25'S., 71°43'W.), a conspicuous mass of rocks about 33m high, appears to be a castle. It has a light appearance when seen from the N and a dark appearance when seen from S. The point is fringed by below-water rocks. Punta Corderba, about 2.5 miles SE, is also low and rocky. A sandy beach extends about 2.5 miles SSE of Punta Corderba.

Punta Lacho, a low and rocky point, lies about 5.5 miles SE of Punta Talca and is the N entrance point of Bahía Cartagena.

Bahía Cartagena indents the coast about 1.5 miles between Punta Lacho and Punta Vera, about 3 miles S. Anchorage may be taken in the SE part of the bay, in 16.5 to 23.8m, sand, about 0.3 mile offshore with Punta Vera bearing 247°. Roca Canova, which dries, lies close to the S shore about 0.5 mile ENE of Punta Vera.

Punta Vera is the NW extremity of Fronton de San Antonio, a promontory which projects about 1 mile W from the general trend of the coast and about 1.8 miles S. Cerro Norte 141m in elevation, rises about 1 mile SE of Punta Vera and is prominent.

Punta Panul is located 1.3 miles S of Punta Vera. The point is rocky, steep, and fronted by ridges of stone over which the sea breaks. A main light is shown from a prominent tower, 9m high, standing close SE of the point.

Cerro Centinela, the summit of Fronton de San Antonio, rises to an elevation of 170m about 0.5 mile E of Punta Panul. A conspicuous white statue on a conical pedestal stands at the summit, and a radio mast stands close by it. It has been reported that the statue is not visible from the N.

Punta San Antonio, the SW end of Fronton de San Antonio and the N entrance point of Puerto San Antonio, lies about 0.5 mile SSE of Punta Panul. The point is high and steep. Several conspicuous tanks stand close NW of the point.

## Puerto San Antonio (33°35'S., 71°38'W.)

World Port Index No. 14470

**5.17** Puerto San Antonio occupies a small bight between Punta San Antonio and a position about 0.8 mile SSE. The port has facilities for handling general, bulk, container, ro-ro, and tanker traffic. It is well-sheltered from SW winds, but heavy swells cause vessels to range alongside.

**Winds—Weather.**—The prevailing winds are S from October to March, with strong breezes blowing in the afternoon and dying down at sundown. Severe storms usually come from the N, but the port is protected from them by the hills in the vicinity. A strong swell, which causes vessels to range heavily, occurs frequently in the port.

**Tides—Currents.**—The mean tidal rise here is 1.2m, while the spring rise is 1.5m.

With fresh S or SW winds, a N set has been observed across the harbor entrance, at a rate of 2 to 3 knots. With strong N, NW, S, or SW winds, strong currents have been observed within the harbor itself, hampering cargo operations.

**Depths—Limitations.**—A bulk liquid and grain terminal is situated close E of the N breakwater in depths of 12m. Vessels of up to 200m in length and 10.6m draft can be handled at the terminal, which consists of an L-shaped pier with dolphin.

A pier extends NW from the E side of the harbor and divides it into two basins. Ro-ro cargoes and containers can be handled at the pier. Vessels up to 210m in length and 10.3m draft can be accommodated alongside the S side of the pier, and vessels up to 185m in length and 8.8m draft alongside the N side.

Three mooring buoys are situated in the N basin of the harbor and can accommodate vessels up to 200m in length and 12.2m draft. Numerous other mooring buoys, best seen on chart, are situated throughout the harbor.

Bulk Liquid Pier No.9 (Muelle Policarpo Toro) is located at the N entrance point of the bay; can berth vessels up to 190m and 10m draft.

There is a study in progress for the regaining of lost sites after the earthquake. There are existing projects for further expansion of the port area.

It is reported that berths situated along the inner side of the S breakwater remain out of service, except for fishing craft, due to the extensive damage suffered during a severe earthquake (1985).

<b>Puerto San Antonio—Berth Limitations</b>		
<b>Berth</b>	<b>Max. length</b>	<b>Max. draft</b>
No. 1	200m	10.36m
No. 2	200m	10.36m
No. 3	175m	10.05m
No. 4	200m	9.14m
No. 5	200m	9.14m
No. 6	165m	7.92m
No. 7	185m	6.24m

**Aspect.**—The port is protected by two breakwaters. The N breakwater extends S for about 100m from a point on the shore close SE of Punta San Antonio. The S breakwater extends NNW for about 800m, forming the harbor entrance which is about 400m wide. A line of breakers extends S from a point on the seaward side of the S breakwater about 300m from the head. There is not much room for maneuvering for vessels over 130m long.

The three-story hotel, with a lighted sign, and the grey hospital building are conspicuous. Lights are shown from the breakwater heads and ranges indicate the entrances into the harbor basins.

**Pilotage.**—Pilotage is compulsory. Pilots board vessels about 1 mile W of the entrance of the port. In the event of bad weather preventing pilots from coming out, vessels should lay off the entrance of the port in the vicinity of the pilot boarding ground and await instructions. Vessels should await pilots in position bearing 159°, approximately 1,080m from Panul Light. The pilot can be contacted by VHF channel 16.

**Anchorage.**—Anchorage is available, in charted depths of 28m, sand and mud, about 1.3 miles W of the S breakwater head.

**Caution.**—Due to being narrow, caution is advised when maneuvering within the harbor.

Minimum distances must be maintained between vessels at the berths, as follows:

1. During the winter (April-September)—30m.
2. During the summer (October-March)—20m.

## **Puerto San Antonio to Bahia Concepcion**

**5.18 Punta Santo Domingo** (33°37'S., 71°38'W.), low and rocky, lies about 2 miles S of Puerto San Antonio. The mouth is inaccessible. The Rio Maipo lies about 0.8 mile NE of Punta Santo Domingo. The sea always breaks along the coast between Puerto San Antonio and the Rio Maipo. During strong W winds, the breakers extend about 1 mile offshore.

An aeronautical radiobeacon is situated about 1 mile S of Punta Santo Domingo.

**Punta Toro** (33°46'S., 71°48'W.), about 13 miles SW of Punta Santo Domingo, is low and sandy. Above and below-

water rocks lie up to 1 mile off the point. Bajo Intermedio, which breaks, lies almost 0.8 mile N of Punta Toro. Bajo Toro, a rocky patch on which the sea breaks, lies about 1.5 miles N of Punta Toro.

Roca Coronilla, a below-water rock, lies about 4.5 miles N of Punta Toro. It has been reported that it has a depth of 1.2m. The sea seldom breaks over it in fine weather. Its position and existence is doubtful.

**Bajo Rapel** (33°51'S., 71°53'W.), an extensive reef with its outer extremity about 3.3 miles offshore, 6 miles SW of Punta Toro, is the only charted offshore danger along this part of the coast. There are three rocks, awash, on this reef which always break.

**Caution.**—Vessels should not approach the land in the vicinity of this reef as they will be set toward the shore by the heavy SW swell and prevailing current which may run at a velocity of more than 1 knot around Punta Topocalma toward Bajo Rapel.

**5.19 Punta Perro** (33°55'S., 71°52'W.), about 8.5 miles SSW of Punta Toro, is a low sandy tongue. It is the S entrance point of the Rio Rapel. Unsheltered anchorage may be taken, in 14.6m, about 0.5 mile offshore and about 0.5 mile NW of Punta Perro.

Caleta Matanza occupies a bight about 3 miles SE of Punta Perro. The bight can be identified by a ravine at its head through which a stream flows. The hills N of the ravine are green, while those S of it are sandy. The village of Matanzas lies near the head of the cove.

Numerous reefs, rocks and islets, best seen on the chart, lie in the vicinity of Caleta Matanza.

**Anchorage.**—Vessels can take anchorage, in 12.8 to 16.5m, mud and sand, about 0.2 mile offshore and almost 0.3 mile NE of Punta Extremo, the S entrance point of Caleta Matanza. There is room for only one vessel at this anchorage and it is exposed from SW through N to NE.

Islotes Pupuya lie about 0.7 mile SW of Punta Extremo. The largest islet is a steep whitish-colored rock with a flat top which slopes WSW. The passage between the islets and the mainland can only be used by small craft.

Caleta Tuman lies between Punta Los Barrancos, about 5.5 miles SW of Punta Extremo, and Punta Tuman, about 2.3 miles farther SW. Farallon del Infiernillo, a dark islet in the form of a pyramid, lies about 0.1 mile offshore and about 0.5 mile NNE of Punta Los Barrancos.

**Anchorage.**—Anchorage can be taken in the S part of Caleta Tuman, in 21.9 to 25.6m, sand, about 0.3 mile offshore N of Punta Tuman. The anchorage is sheltered from S winds and swell.

Punta Domingo, 0.5 mile SSW of Punta Tuman, is a steep-to point and about 116m high. The point can be identified by yellow sandhills which begin here and extend S to Punta Topocalma. The sandhills are backed by higher tree-covered land.

**Punta Topocalma** (34°08'S., 72°01'W.), about 2.5 miles SW of Punta Domingo, is a bluff promontory about 122m high with a steep narrow valley which separates it from the mainland. A main light is shown from the summit of the promontory.

**Anchorage.**—Anchorage can be taken, in 32 to 36m, sand and mud, about 0.5 mile N of the point, in Rada Topocalma. The anchorage is exposed from the N through W to S, and cannot be recommended for long periods or in unfavorable winds.

**5.20 Punta Pichilemu** (34°23'S., 72°01'W.), about 15 miles S of Punta Topocalma, is low, rocky, and fronted by rocks. Puerto Pichilemu, a small cove, lies about 1 mile NE of the point. La Puntilla, the SW entrance point of the cove, can be identified by a large square building on its summit. Above and below-water rocks extend up to almost 0.3 mile NNE of La Puntilla.

The E and S shores of Puerto Pichilemu are sandy, while the SW shore is rocky. Anchorage can be taken, in 14 to 15m, sand and mud, about 0.5 mile offshore NE of La Puntilla. The anchorage is sheltered from the S, but is exposed to the W. Pichilemu, a resort, is situated on the SE shore of the cove.

Several conspicuous lights, visible from seaward, are shown from a point on the coast about 6 miles N of Punta Pichilemu.

Punta Lobos, about 2.5 miles SSW of Punta Pichilemu, is an excellent landmark. There are two high and conspicuous rocks close off the N extremity of the point. A large white building with a red roof stands on the point.

Punta Sirena lies about 7 miles S of Punta Lobos. The coast between recedes about 1.5 miles E to form a bay. The N part of the bay consists of a sandy beach, while the S part is rugged and rocky. The entrance of Laguna de Cahuil lies at the head of the bay.

**Rada Llico** (34°46'S., 72°07'W.) can be identified from seaward by the brown sandy heights E of Llico. Punta Llico, at the S end of the bight, is the W entrance point of a channel which leads to Laguna de Vichuquen. The point rises to a height of about 111m. Cueva de Tricahue, about 250m high, lies about 1.5 miles S of Punta Llico. The village of Llico stands on the S shore of the channel. The bar at the mouth of the channel is navigable only by small craft with local knowledge.

**Anchorage.**—Vessels can take anchorage about 0.5 mile offshore NNW of Punta Llico, in about 35m, mud and shell. The anchorage is exposed to all winds from the NW to S. During strong N winds, it is advisable to put to sea although the holding ground is good.

Punta Cardonal lies about 5 miles SW of Punta Llico. The coast between is fronted by submerged rocks. A group of houses stands about 4 miles S of the point, and a prominent summit 335m in elevation, stands about 2 miles E of the point.

**5.21 Punta Roncura** (34°58'S., 72°11'W.), the S entrance point of the Rio Mataquito, lies about 10 miles SSW of Punta Cardonal. Roca el Penon, a prominent large rock, lies close N of the point and marks the N entrance point of the river.

Punta Arenas lies about 21 miles SW of Punta Roncura. The coast between is low and sandy. Hills rising to 390m back the coast about 3 miles inland.

**Puerto Constitucion** (35°19'S., 72°23'W.) about 3.5 miles S of Punta Arenas, is situated at the mouth of the Rio Maule. The river empties between Punta Quivolgo and Punta Ventanas, almost 0.3 mile W. The entrance to the river is easily identified. Northward is a long, low, sandy beach which extends beyond

the range of vision while S of the entrance the land is high and the shore is rocky. There are two incomplete moles on the W side of Punta Ventanas. The area within the moles was intended to be a harbor, but is now filled with sand.

Piedra de La Iglesia, a prominent rock which resembles a church from the offing, is situated close offshore about 1 mile SW of Punta Ventanas. La Gaviota and Piedra de la Lobos are two whitish rocks that lie close W and N, respectively, of Punta Ventanas. Cerro Mutrun rises to an elevation of 87m, close SSE of Punta Ventanas. A monument and a prominent television mast stand on the summit.

The town of Constitucion, which is a summer tourist resort, is situated close within the mouth of the river on the S bank. A small quay fronts the town.

The bar is subject to frequent changes and is only crossed by small craft with local knowledge.

An aeronautical radiobeacon is situated about 2 miles NE of the river mouth.

A dangerous wreck lies about 0.8 mile W of Punta Ventanas.

**Anchorage.**—Anchorage can be taken off the mouth of the Rio Maule, as convenient. The anchorage is exposed and should only be used in emergency.

**5.22 Cabo Humos**, a bold and prominent headland is located 6 miles SW of Puerto Constitucion. It is fronted by submerged rocks and is radar prominent.

Depths of 14m and 13m have been reported to lie, respectively, about 18 miles NW and 16 miles WNW of the cape. The existence of these depths should be considered doubtful.

Ensenada Maguallin, a cove used by fishing craft for shelter, lies midway between the mouth of the Rio Maule and Cabo Humos. There is a small pier in the cove with three prominent warehouses near the root. Ensenada Maguallin is only sheltered from winds between the E and S and there is always a running swell. With winds above 15 knots from any other direction, sea conditions can make anchoring unsafe.

**Caution.**—Strong E currents have been reported to exist between Punta Topocalma and Cabo Carranza, with many groundings between Cabo Humos and Cabo Carranza. Vessels are urged to exercise the appropriate caution in navigation here.

**5.23 Cabo Carranza** (35°35'S., 72°38'W.), about 12 miles SW of Cabo Humos, is formed by a wide and low spit of land. The cape lies between Punta Santa Ana, the NW extremity, and Punta La Vieja, a low tongue of land which forms the SW extremity about 3 miles SSW of Punta Santa Ana. The cape should be given a wide berth as the coast has not been examined and is frequently obscured by haze. Foul ground is reported to lie up to 1 mile off the cape, while a rock, position approximate, which breaks, lies 1.5 miles NW of it.

A main light is shown from a tower 19m high, standing on the cape. The keeper's house, painted white with a prominent red roof, is connected to the tower.

Bahia Chanco recedes about 3.5 miles E between Punta La Vieja and Punta Puchepo, about 14 miles S. The shore of the bay is sandy. Rada Pelluhue, a cove at the S end of Bahia Chanco, provides anchorage, in 17m, sand and rock, about 0.3 to 0.5 mile offshore NW of the head of the cove. Rada Curanipe, another small cove, lies just NE of Punta Trarao, a rock

on the extremity of a sandy point about 0.3 mile NE of Punta Puchepo. The cove affords little protection from S winds and the swell is always heavy.

**Anchorage.**—Vessels can take anchorage, in 14 to 20m, sand, about 0.5 mile N of Punta Trarao. Smaller vessels may anchor, in 10m, sand, about 0.3 mile N of Punta Trarao. Vessels should always be prepared to put to sea, as the holding ground is not good.

The village of Curanipe lies close within the combined mouths of the Rio Parron and the Rio Curanipe, which flow into Rada Curanipe about 0.2 mile E of Punta Trarao.

**5.24 Punta Puchepo** (35°49'S., 72°36'W.) is low and sandy with a central strip of rock. Montes Pelados are located about 3 miles E of Punta Puchepo. The summits of these hills are bare and dark and attain a height of 396m.

**Punta Nugurne** (35°59'S., 72°48'W.), about 11 miles SW of Punta Puchepo, is a prominent point with a mound on its extremity. Punta Nugurne is reported to give a good radar return up to 17 miles. A rock, on which the sea breaks, lies about 0.3 mile W of the point. A shoal, with a depth of 18m, lies about 9.5 miles WNW of the point.

Rada Buchupureo is a small cove which lies on the N side of Punta Maquis, about 6 miles S of Punta Nugurne. The cove can be identified by the sandy beach which forms the E side of the bay, and by the road which passes over Punta Maquis. The Rio Buchupureo empties into the cove about 0.4 mile E of Punta Maquis, and the town of Buchupureo lies about 0.5 mile within the mouth of the river on the N bank. Three bridges cross the river close within the mouth.

**Anchorage.**—Vessels can take anchorage, in 21.9m, sand, almost 0.5 mile offshore NNE of Punta Maquis. The holding ground is poor and the bottom is foul with lost anchors and cables. There is anchorage for smaller vessels in, 14.6m, sand, almost 0.3 mile offshore NE of Punta Maquis.

Landing is impossible, even in fine weather, and there is no maritime activity at Aldea de Buchupureo, at the S end of the bay.

**5.25 Punta Maquis** (36°05'S., 72°48'W.) is steep-to, rocky, and about 213m high. Punta Maquis is reported to give a good radar return up 25 miles. Farallon Iglesia de Piedra, a prominent rock, lies close off Punta Iglesia de Piedra, about 1 mile S of Punta Maquis. It was reported that Punta Maquis extends about 0.8 mile farther W than charted.

**Bahia Cobquecura** (36°08'S., 72°48'W.) lies between Punta Iglesia and Punta Achira, a high, steep-to, and rocky point about 5.5 miles S. Punta Achira is reported to give a good radar return up to 25 miles. Bajo Miramar, a reef with some above-water rocks, lies in the S part of Bahia Cobquecura and extends about 1 mile offshore from 1.5 to 2.5 miles N of Punta Achira. The shores of the bay are unapproachable except in the finest weather. The village of Cobquecura stands about 2.8 miles S of Punta Iglesia. Lights at the village may be seen up to 10 miles seaward.

Depths of 18m (existence doubtful) lie about 8.5 and 29 miles W of Punta Achira.

Punta Coicoi, the N entrance point of the unnavigable Rio Itata, lies 12.5 miles SSW of Punta Achira. Punta Coicoi is

steep-to and rocky. A reef extends a little over 0.5 mile W from the point.

**Bahia Coliumo** (36°32'S., 72°56'W.), about 10 miles SSW of Punta Coicoi, is entered between Punta Lingual and Punta Blanca, almost 1 mile W. The bay recedes S for about 1.5 miles. Punta Blanca is low and rocky, but rises steeply to Morro Necoche, which appears to be an islet from the N. Islote Hormigueta, a rocky islet, lies about 91m N of Punta Blanca. The bay is a tourist resort and the Marine Biology Headquarters of the University of Concepcion. Small vessels may anchor within the bay. A pier at the SE side of the bay is reported to be destroyed.

**Morro Loberia** (36°35'S., 73°00'W.), a high and dark bluff, stands about 4 miles SW of the W entrance point of Bay Coliumo. The coast between is fronted in most places by submerged rocks. A light is shown from the point. Above and below-water rocks lie up to 0.1 mile offshore W of the point, and the sea breaks heavily on them during N winds. The point can be identified easily, even on dark nights.

Roca Concepcion, a pinnacle rock with 5.9m over it, lies about 0.3 mile W of Morro Loberia. The sea breaks over Roca Concepcion in bad weather.

Cerro Neuque, a prominent hill, rises to an elevation of 490m about 4.5 miles E of Morro Loberia.

**Punta Tumbes** (36°37'S., 73°07'W.) 6 miles WSW of Morro Loberia, is steep and rocky. A main light is shown from the point which is the NW extremity of a peninsula. Foul ground and rocks extend up to 0.3 mile N of the N end of the peninsula. Roca Quiebra Olas, a rock 7m high and blackish in color, lies a little over 0.8 mile NW of Punta Tumbes. Vessels should not pass between the rock and the coast of the peninsula. Islote Pan de Azucar, an islet 35m high, lies on foul ground which extends 0.8 mile W from a point about 1.8 miles SSW of Punta Tumbes.

**Caution.**—A shoal, with a least charted depth of 29m, lies about 28 miles NW of Punta Tumbes.

**5.26 Bahia Concepcion** (36°41'S., 73°02'W.) is one of the best and most protected harbors on the coast. It is entered between Morro Loberia and Punta Tumbes and recedes S for about 9 miles. There are excellent anchorages and several small ports within the bay.

Isla Quiriquina lies on the W side of the entrance. Two channels, passing on either side of Isla Quiriquina, lead into the bay. Boca Grande, the E channel, is free of dangers, except for Roca Concepcion, which has already been described above in paragraph 5.25. Boca Chica, the W channel, is narrow and difficult to navigate.

**Winds—Weather.**—About 40 days of heavy seas are caused by N winds during the months from May to August; there is no swell.

Good weather prevails from September to April. During the winter months, about 10 to 15 days are unworkable due to heavy rains. Fogs are more frequent from January to April than in the other months.

**Tides—Currents.**—The tides are affected by seismographic disturbances along the coast. In the winter, after N winds and hard rains, there is an ebb current.

Strong currents are reported to run through Boca Chica at a spring tide.

**Aspect.**—Boca Chica, the W channel, is narrow. Vessels over 60m in length or 600 grt are prohibited from using this channel, with the exception of warships of the Chile Navy.

Rocas Buey, the outer end of a reef which extends about 0.5 mile E from the shore, lies about 2 miles ESE of Punta Tumbes and is marked by a lighted buoy. The channel E of Rocas Buey is reduced to a navigable width of about 0.4 mile and there are strong and irregular currents in the vicinity. There is a least depth of 12m in the fairway of the channel.

Boca Grande, the main entrance channel, lies E of Isla Quiriquina.

Vessels are limited to a speed of 20 knots when passing through either entrance channel.

Numerous fishing vessels may be encountered in the entrance channels.

Isla Quiriquina, home to a naval school, is 131m high and about 3 miles in length. Foul ground extends between 0.1 and 0.5 mile off the island's shores. Punta del Faro, the N extremity of the island, lies about 3.3 miles ENE of Punta Tumbes.

A main light is shown from a tower, 6m high, standing about 0.4 mile S of Punta del Faro.

Punta Arenas, a low sandy spit, is the SE extremity of the island and lies 2.5 miles SSW of Punta del Faro. A light is shown from the point. Punta Fronton, the SW extremity of the island, lies about 0.8 mile WSW of Punta Arenas. Kelp is frequently found off the point.

**Regulations.**—An IMO-adopted Traffic Separation Scheme is situated within Boca Grande and may best be seen on the chart. The inbound traffic lane lies to the W of the separation zone.

**Anchorage.**—During NW winds, vessels can anchor anywhere under the lee of Isla Quiriquina outside of the prohibited area.

**Caution.**—A submarine cable area extends WNW from the vicinity of Punta Fronton to the E coast of the Tumbes peninsula.

A measured distance range on a course of 036.5°-216.5° is established SE of Punta Arenas. The NE limit is marked by a pair of beacons on Cerro Amarillo and the SW limit is marked by a pair of beacons, which stand about 0.5 mile SW of Punta Arenas. Each of the beacons consists of a quadrangular framework, orange tower, 11m high, surmounted by a triangle.

The entire island is enclosed within a Prohibited Area, best seen on the chart.

**5.27 Tome** (36°37'S., 72°57'W.) is situated in Tome Bay, in the NE part of Concepcion Bay. The bay measures about 2 miles across and recedes 0.7 mile, providing an excellent anchorage. The port consists of a single cargo pier. Cargo consists mainly of coastal trade and exports, imported cargo is few and far between.

**Depths—Limitations.**—The pier is about 152m long, with a depth of 2.4m at its head. No lighters are kept at this port, as vessel entries are sporadic. When they are needed, the lighters are brought across from Talchuanano and discharged at Tome, with the 3-ton cranes at the pier.

**Pilotage.**—Pilotage is not compulsory, and there is no resident pilot. However, if pilotage is required, the vessel must

give 48-hour notice of requirements to Talcahuano; VHF channel 16 (calling only) is used.

**Caution.**—An outfall extends W from the shore in the SW part of Puerto Tomes. An anchoring and fishing prohibited area, best seen on the chart, surrounds the outfall.

**5.28 Lirquen** (36°43'S., 72°59'W.) ([World Port Index No. 14425](#)) is a small port situated on the SE side of Bahia Concepcion.

Lirquen Wharf No. 1 is a 615m long concrete pier, with an access bridge, built into the bay, running from S to N. Four berths (Berth No. 1 through Berth No. 4) are situated on the pier, two on each side. A light is shown from the pier head. There are no cranes; vessels must use their own equipment.

Lirquen Wharf No. 2 is a combination pier and access bridge 712m long located W of Lirquen Wharf No. 1. Berth No. 5 and Berth No. 6 are found at this pier.

Berthing limitations for the two piers are, as follows:

Lirquen—Berthing Limitations		
Berth	Usable length	Draft
No. 1	220m	11.9m
No. 2	210m	11.4m
No. 3	150m	9.6m
No. 4	160m	7.4m
No. 5	220m	14.99m
No. 6	220m	12.86m

**Aspect.**—Range marks situated on the roofs of the sheds at the root of the pier assist the pilot in berthing; however, these leading marks should not be used during a fog or during a severe wind. Berthing takes place only in daylight.

**Pilotage.**—Pilotage is compulsory for all foreign vessels. The pilot from Talcahuano boards in an area 1 mile W of the pier head. The port can be contacted by VHF channel 16. The use of tugs is compulsory.

**Regulations.**—Tugs are used to berth and unberth ships at both piers.

**Signals.**—When signal for variable weather is displayed, vessels must vacate Berth No. 3, Berth No. 4, Berth No. 5, and Berth No. 6. The signals are, as follows:.

1. By day—A blue triangular flag.
2. By night—One green light.

**Anchorage.**—A vessel waiting to berth should anchor 0.5 mile off the pier head, in a depth of about 18m, sand and mud, good holding ground.

**5.29 Penco** (36°42'S., 73°00'W.) ([World Port Index No. 14440](#)) is situated about 2 miles SW of Lirquen at the mouth of the Rio Andalien.

A conveyor pier extends about 1 mile N from the shore. A phosphate factory stands at the root of the pier. Lights along the pier are prominent. A berth, with three dolphins and four mooring buoys, is situated alongside the E side of the pier head. Vessels up to 200m in length and 10.1m draft can be accommodated.

**Pilotage.**—Pilotage is compulsory, and may be had at the boarding ground situated about 1 mile N of the pier head. The pilot and tugs are supplied from Talcahuano. Pilots are also compulsory for vessels proceeding to the anchorage.

**Anchorage.**—Large vessels should anchor about 0.4 mile ESE of the pier head, in a depth of 11m. Small vessels should anchor about 0.5 mile SE of the pier head, in a depth of 9m.

**5.30 Talcahuano** (36°42'S., 73°06'W.) ([World Port Index No. 14420](#)) is situated along the S part of the W shore of Bahia Concepcion, and serves as a naval base and a commercial port.

**Tides—Currents.**—The mean tidal rise here is 1.5m, while the spring rise is 1.8m.

**Depths—Limitations.**—The Emporchi Pier consists of Berth No. 1, with a length of 155m and a depth of 8.8m. Berth 2 has a length of 100m, with a depth of 6.7m; it is reported no longer in use. There is an important naval base at the port within which Molo 500 is used commercially. Its extension of 500m and a depth of 8.2m accommodate up to two vessels at a time. Berth No. 1 has a length of 200m and a depth of 8.2m. Berth No. 2 has a length of 175m and a depth of 7.3m.

It is reported that vessels up to 92,100 dwt can be handled at the naval drydock.

**Aspect.**—Banco Belen lies 3 miles SSW of the S extremity of Isla Quiriquina. The naval facilities, which include a repair basin and two drydocks, extend E from the W shore of the bay and are protected by a breakwater situated about 0.3 mile W of Banco Belen. The naval base extends along the W coast of the bay about 1 mile S and 2.5 miles N of the repair basin. The commercial harbor is situated close S of the naval base.

A very conspicuous radio mast, the tallest of several masts, stands on the summit of Cerro Centinela, about 1 mile W of the commercial pier. Three prominent radio masts and then two other prominent radio masts stand about 0.3 mile W and 0.5 mile SSW, respectively, of the repair basin. Morro Talcahuano is prominent and rises on the E side of the entrance to Canal del Morro, about 0.5 mile SSE of the root of the commercial pier.

A light, with a racon, is shown from a tower, 8m high, standing at the SE side of Banco Belen. Buoys are moored at the N and W ends of the shoal. Ranges indicate the approach to the commercial pier.

**Pilotage.**—Pilotage is compulsory for all foreign vessels for both anchoring and docking. The pilot boards about 0.6 mile SSE of Banco Belen Light. The port and pilot can be contacted on VHF channel 16.

**Anchorage.**—The port is the best anchorage for large vessels within the bay, as it is sheltered from the prevailing winds. Vessels anchor in the port area about 0.5 mile offshore, in depths of 7.5 to 9m. Vessels unable to anchor in the port area should do so S of a line extended 069° from the head of the commercial pier. Explosives, quarantine, and fumigation anchorage areas are shown on the chart S of Banco Belen.

**Caution.**—A restricted area in which anchoring and fishing are prohibited, the limits of which is shown on the chart, fronts the naval base and facilities. This area adjoins the prohibited area.

## Bahia San Vicente (36°44'S., 73°10'W.)

[World Port Index No. 14415](#)

**5.31 Bahia San Vicente** is situated close SW of Peninsula Tumbes. It is entered between Punta Lobos, about 6.3 miles SSW of Punta Tumbes, and Punta Gualpen, 2.5 miles SW. The town of San Vicente, situated along the NE shore of the bay, is considered part of Talcahuano. The port has two berthing piers. A petroleum refinery has been recently installed in the neighborhood of the bay.

**Winds—Weather.**—Bahia San Vicente is open to winds from the NW, which raise a swell in its southern half. The port facilities, which are situated in the NE corner of the bay are well protected from the surf generated by these winds. During the summer, winds from the S and SW prevail here creating a non dangerous swell in the bay's N portion.

**Tides—Currents.**—The local authorities and the pilot should be consulted for data on tides and currents within the bay. The tidal rise here is reported to be 1.7m.

**Depths—Limitations.**—There are two piers available for use 24 hours. The general cargo and bulk berths are at the North Pier, which has a length of 200m and an alongside depth 9.9m, and South Pier, which has a length of 180m and an alongside depth of 7.9m. The Emporchi Berths are Pier No. 1, with a length of 220m and depth alongside of 11.2m, and Pier No. 2, with a length of 220m and depth alongside of 11.9m.

Three multi-point mooring terminal berths, connected to submarine pipelines, are available in the NE part of the bay, as follows:

1. Terminal A handled tankers up to 150m in length with drafts up to 9.4m. It has been reported that Terminal A is now out of service.
2. Terminal B can handle tankers up to 250m in length with drafts up to 12.8m. It is for crude and fuel oil.
3. Terminal C is for clean products. It can handle tankers up to 150m in length with a maximum draft of 9.1m. There is no night berthing. Vessels up to 80,000 dwt call here.

The gas terminal is located in the SE part of the bay. Vessels lie with ships head 270° using both anchors and stern lines to three mooring buoys.

Muelle CAP is a mechanized pier extending 371m from the E shore of the bay. Vessels up to 200m in length can be accommodated at the N side with drafts up to 10m, and at the S side with drafts up to 8m. Four sets of lighted range beacons provide navigation assistance to the berths.

**Aspect.**—The bay recedes about 2.3 miles SE. The N shore is high and rocky, curving around to Punta Gualpen, which is a rocky steep-sided promontory. The E portion of the bay is formed by a sandy beach. Islote Los Chanalles, 19m high, stands on foul ground extending up to 0.2 mile SW of Punta Lobos. Ras Lobos stand on foul ground extending up to 0.2 mile N of Punta Gualpen. Punta Liles lies about 1.5 miles SE of Punta Lobos. A breakwater extends 0.3 mile SW from Punta Liles.

The high hills of Tetas de Bio are the most conspicuous landmarks for making the bay; Teta Norte, 244m high, and Teta Sur, 247m high, stand about 1.3 miles SSE and 1.5 miles SSW, respectively, of Punta Gualpen. A radio mast stands on the summit of Teta Sur.

A main light is shown from Punta Gualpen. The lights and flares of the steel mill at the E side of the bay may be seen from a considerable distance seaward.

**Pilotage.**—Pilotage is compulsory. There are five pilots available. Pilots board in an area about 1 mile ENE of Punta Gualpen. Caution is advised as the light on the point may become obscured. Vessels should contact the pilot at least 1 hour prior to arrival. The pilot can be contacted on VHF channel 16.

**Anchorage.**—Anchorage, sheltered from all but NW winds, is available anywhere in the bay clear of the Prohibited Anchorage Area in depths of less than 20m over a bottom of sand and mud, good holding ground. Vessels anchored within the bay during bad weather should leave and heave-to at sea or proceed to Bahia Concepcion to anchor in the lee of Isla Quiriquina.

**Regulations.**—Bahia San Vicente is considered an integral portion of Talcahuano, so no additional clearance is necessary if sailing between these ports.

Tankers are berthed and unberthed during daylight hours only.

An IMO-adopted Traffic Separation Scheme lies in the approaches to the bay and may best be seen on the chart. The inbound traffic lane is situated SW of the Traffic Separation Zone.

**Caution.**—A prohibited anchorage area, the limits of which can be seen on the chart, lies in the NE part of the bay.

Numerous fishing vessels may be encountered in the approaches to the bay.

Roca Villa de Burdeos, a shoal patch with a least depth of 4.1m, lies about 0.4 mile WSW of the breakwater head and is marked by a lighted buoy moored close S. Roca Navia Chica, 4m high, and Roca Navia Grande, 14m high, lie off the SW shore of the bay about 0.8 mile ESE of Punta Gualpen.

In bad weather conditions, it is recommended that vessels making a landfall at Bahia San Vicente or anchored within the bay should leave and either heave-to at sea or head for Bahia Concepcion to anchor in the lee of Isla Quiriquina.

## Golfo de Arauco

**5.32** Golfo de Arauco is a large gulf entered between Punta Cullinto, 2.5 miles SW of Punta Gualpen, and Punta Lavapie about 28 miles SW. It recedes about 16 miles SE. The mouth of the Rio Bio Bio is situated in the NE part. Isla Santa Maria lies about 8 miles NNE of Punta Lavapie in the entrance of the gulf. The shores of the gulf consist mostly of sandy bays and beaches, interspersed with rocky points and cliffs.

Punta Cullinto is low and rocky. Islets Los Lobos, a group of islets and rocks, front the point up to 0.3 mile SW.

Morro Pompon, formed by an islet connected to the mainland by a sandy isthmus, lies 2.8 miles SE of Punta Cullinto.

The Rio Bio Bio empties into the gulf between Morro Pompon and an unnamed point about 1 mile S. The river is inaccessible due to sand banks. The water is discolored up to about 4 miles NW and 14 miles S of the mouth by the discharge from the river.

An aeronautical light is situated about 5 miles ENE of the river mouth. A prominent radio mast stands about 3.5 miles ESE of Morro Pompon on the S bank of the river.

**Punta Lavapie** (37°09'S., 73°35'W.) is low and rocky. Islets and rocks, awash, front the point up to 0.5 mile N. A light is shown from the point. Emergency anchorage may be taken by small vessels in depths of 8m ESE of the point protected from S and W winds. Foul ground extends up to 1 mile from the shore SE of the point.

Isla Santa Maria, in the SW part of the gulf, is low and has numerous off-lying rocks and shoals surrounding it. Isla Santa Maria is undulating, treeless, and covered with grass and small shrubs.

The W coast of the island is mostly cliffy, except for a flat sandy area in the middle which extends ESE across the island and gives it the appearance of two islands from a distance. Morro Dolores, the W extremity, is a detached hill about 58m high, which stands on a small peninsula. The E side of the island is hilly at its N and S parts. The flat sandy area mentioned above forms a spit on the middle of the E side which terminates in Punta Delicada. Morro Cansado, the N extremity of the island, lies 6 miles NW of Punta Delicada. Punta Cochinos, the S extremity of the island, lies 3.3 miles SW of Punta Delicada. Above and below-water rocks lie up to 1.3 miles off the W coast of the island, and are not always marked by breakers. Dangerous ground, islets, and rocks lie up to 3 miles NNW of Morro Cansado.

A main light is shown from a tower standing at an elevation of 210m, about 1 mile SSW of Morro Cansado. A light is shown from a tower standing about 1 mile NW of Punta Delicada.

Boca Chica, the passage between Punta Lavapie and Isla Santa Maria, is nearly 5 miles wide with a navigable width of 2.3 miles. A sandy ridge, with a least depth of 7.8m, extends S across Boca Chica between Punta Delicada and Punta Pichicui, 7 miles SE of Punta Lavapie.

A depth of 0.5m, existence doubtful, lies 2.5 miles N of Punta Pichicui. Roca Huemul, with a depth of 6m, and Roca Meteor, with a depth of 6.8m, lie 1.8 miles SSE and 1 mile S, respectively, of Punta Cochinos; the sea breaks occasionally over both rocks.

Roca Hector, existence doubtful, is reported to lie about 1.8 miles N of Punta Lavapie. Roca Cockatrice, existence doubtful, is reported to lie about 3.3 miles W of Punta Cochinos. Several other dangers lie between Roca Cockatrice and Isla Santa Maria and may be seen on the chart.

Approaching Boca Chica from the W, an E set at about 0.5 knot may be felt. Within the channel entrance, the flood sets ENE, while the ebb sets WSW, both at a rate of 1 to 2 knots.

In heavy weather, the sand ridge across the channel becomes a mass of breakers.

There is a considerable amount of fog in the vicinity of the channel from January through July, but less frequent during the rest of the year.

Punta Coronel, 11.5 miles S of Morro Pompon, can be identified by a small village about 0.5 mile N, by a small-house on the end of the point, and by an old mine shaft close S of it. A sandy beach extends for about 11 miles N of the point to the mouth of the Rio Bio Bio.

Punta Puchoco, about 1.5 miles S of Punta Coronel, is moderately high and has some trees and houses standing on it.

A prominent building, with a metal tower, 55m high, stands midway between the above points. Obstruction lights mark the

tower. A main light is shown from a tower, 6m high, standing on Punta Puchoco. A chimney, 40m high, stands at a power station about 0.5 mile NE of the light tower. A wreck is reported to lie approximately 1.5 miles NW of Punta Puchoco.

Roca Boca Maule, with a least depth of 7.1m, lies about 1 mile NW of Punta Puchoco.

Bahia de Coronel recedes about 1.5 miles E between Punta Puchoco and Punta Cuervos, about 2.8 miles SSE. The bay has depths of about 20.1m across its entrance, which decrease gradually toward the shore. Bajo Playa Negra, a reef on which the sea breaks heavily in ordinary weather, lies on the shore bank about 0.3 mile offshore near the middle of the E shore, about 2 miles NE of Punta Cuervos. Roca Playa Blanca, with 4.6m over it, lies about 0.8 mile offshore almost 1 mile NNE of Punta Cuervos. Playa Blanca, at the head of the SE part of the bay, consists of fine yellowish sand, on which a heavy surf always breaks. Bajo Puchoco, at the N end of the bay, extends up to 0.3 mile SE of Punta Puchoco.

**Winds—Weather.**—Strong S winds prevail in Bahia Coronel in the summer months from September to March, and sometimes cause a short choppy sea. These winds are not dangerous to shipping. Northerly gales prevail during the winter months. Fine drizzle and somewhat dense fog are frequent in Bahia Coronel. It has been reported that an E current set between 2 and 3 knots occurs between Punta Coronel and Punta Lota, about 6 miles S.

**5.33 Coronel** (37°02'S., 73°10'W.) ([World Port Index No. 14400](#)) lies about 1.3 miles E of Punta Puchoco. It is a coal mining port. The harbor bay provides no restriction to maximum vessel size permitted. However, berthing is sized during daylight hours only. Masters should be aware that his vessel should be ready to leave the berth at short notice due to bad weather.

**Tides—Currents.**—It has been reported that a current sets E at a rate of 2 to 3 knots off the approach to the bay.

Tides rise 1.2 to 1.5m here.

**Depths—Limitations.**—Jureles Pier, a mechanized terminal for loading bulk cargo, has a total length of 750m. Vessels up to 12.1m draft, length 170m, and 35,000 dwt can berth across the head of the jetty. Vessels berth starboard side-to, using five mooring buoys. The largest vessel berthed at Muelle Puerto Coronel was 220m long, with a maximum draft of 14m. Puchoco Pier can berth vessels up to 71,000 dwt heading to SW with bow lines to a dolphin and an offshore anchor. At the berth, vessels experience continuous surge and swell during the winter months.

**Pilotage.**—Pilotage is compulsory. Pilots will board vessels about 1 mile SW of Punta Puchoco. Pilots are supplied from San Vicente.

Vessels are to wait in the anchorage, 400m from the head of the coal pier, in a depth of 10m, if the pilot is not available or the berth is occupied; VHF channels 9, 14 and 16 are used.

**Anchorage.**—Vessels intending to remain for some time can take anchorage in the NE part of the bay. In this position they will be sheltered from N, NW, and W winds and will not be exposed to the heavy rolling and swell which runs when these winds are strong.

Vessels may also anchor in about 16.5m in the NW part of Bahia Coronel, about 0.9 mile E of Punta Puchoco. Caution

should be utilized in approaching this anchorage as the depths decrease abruptly.

**Caution.**—It is reported that Bajo Puchoco is extending S.

Several dangerous wrecks and obstructions lie in the bay and may best be seen on the chart.

Vessels are prohibited from navigating in the vicinity of a submarine pipeline situated on the N side of the pier.

Punta Pique is located about 1 mile SE of Punta Cuervos and fringed by a reef. A conspicuous tower 56m high, stands on the point.

Punta Lota (Lutrin) lies about 0.3 mile S of Punta Pique and is fringed by a reef. A light is shown from a prominent tower, 13m high, standing on the point. The tall chimneys at a disused smelting works stand E of the point near the foot of the hills which dominate the shore. Caleta Chambique, a small cove entered between Punta Pique and Punta Lota, is used by small craft, but is exposed and SW winds cause a heavy sea.

Bahia de Lota recedes about 0.5 mile NE between Punta Lota and Punta Fuerte Viejo, about 0.8 mile SE. The bay has general depths of about 11m across its entrance between Punta Lota and Islote Lobos, about 0.1 mile W of Punta Fuerte Viejo. Depths within the bay decrease gradually toward the shore. Punta Escoria, formed by slag from an abandoned smelting works, is located a little over 0.5 mile ESE of Punta Lota. Bajo Punta Escoria extends about 0.1 mile S of the point and is marked by a lighted buoy. It is reported that the S part of the shoal breaks.

**5.34 Lota** (37°06'S., 73°09'W.) ([World Port Index No. 14380](#)) is situated along the NE shore of Bahia de Lota. Lota is the site of a mechanical coal loading pier, now operated by the National Coal Board. The port is used for the loading of coal.

**Tides—Currents.**—Tides rise here about 1.2m. During strong W or NW winds, a current has been observed to run E and S around the shores of the bay to Isla Lobos and then turn S.

**Depths—Limitations.**—The coal loading pier is 220m long. There are two sets of range lights for laying out the two anchors, based on a vessel with a maximum length of 110m. No tugs are required, but there is one launch for mooring. The 220m long pier has a berthing length of 149m, on the E side. There is 8.8m at the head of the pier and to 60m shorewards, shoaling to 7m at the 149m mark. The W side is no longer used and there are no lighters.

Vessels can berth or sail at any hour. It was reported that the port intends to extend the length of the pier.

**Pilotage.**—Pilots board vessels about 0.3 mile SE of Punta Lota in the charted waiting area. Pilotage is compulsory, and is supplied from Talcahuano.

When waiting for a pilot or berth, vessels anchor 500m off the light, bearing 135°, in 10.6m of water.

**Anchorage.**—Anchorage can be taken in the entrance to the port, midway between Punta Lota and Islote Lobos, in a depth of 12m, mud. The explosive anchorage lies about 0.5 mile W of Isolote Lobos.

**Caution.**—Winds from the W to NW cause swells which may suspend loading operations.

**Caleta Colcura** (37°07'S., 73°09'W.) occupies a bight between Punta Fuerte Viejo and a position about 0.8 mile S. The cove can be identified by a sandy beach at its head and Islote Lobos lying off the N entrance point. Several wrecks lie in the vicinity of the cove and may be seen on the chart.

**Anchorage.**—The bight affords good anchorage to small vessels, in 7.3 to 9.1m, sand, about 0.3 mile offshore S of Punta Fuerte Viejo.

Punta Laraquete is located about 4.3 miles SSW of Punta Lota. The Rio Laraquete empties into the gulf close S of the point. Caleta Laraquete lies off the river mouth, and Caleta Chivilingo lies about 1 mile NNE of the point. Both these bights offer anchorage, but they are exposed and not recommended.

## Golfo de Arauco to Bahía de Corral

**5.35 Punta Lavapie** (37°09'S., 73°35'W.), [previously described in paragraph 5.32](#), is the N extremity of Cabo Rumena, a hilly and wooded promontory about 335m high. The W side of Cabo Rumena, from Punta Lavapie to Punta Los Piures, about 4 miles SW, is fringed by above and below-water rocks to a distance of about 0.5 mile offshore. A rock, with a depth of 5m, lies 1.3 miles NNW of Punta Los Piures, while a rocky shoal, with a depth of 11m, lies close S of the rock.

Between Punta Los Piures and Morro Carnero, the N entrance point of Bahía Carnero about 11 miles SSW, the coast is steep-to and fringed by numerous dangers to a distance of almost 0.5 mile offshore.

Bahía Carnero is a large bay which recedes about 4 miles E between Morro Carnero and Punta Millomhue, about 14 miles S. Punta Arenas (37°22'S., 73°40'W.) is a low point about 0.8 mile E of Morro Carnero. Isla Uchaguapi and Isla Pichiguapi extend almost 1 mile S from the point and are almost contiguous with the point and with each other.

**Puerto Yana** (37°22'S., 73°39'W.) ([World Port Index No. 14370](#)), used by coastal vessels for shelter, indents the coast about 0.8 mile between the S extremity of Isla Pichiguapi and Punta Liles, about 1.3 miles ENE.

**Anchorage.**—Anchorage can be taken, in 11 to 15m, sand, good holding ground, about 0.3 mile E of Isla Uchaguapi. Large vessels anchor, in a depth of 18m, sand, 0.8 mile WSW of the hill on Punta Liles.

**Caution.**—When approaching these anchorages, take care to avoid the wrecks off the E coast of Isla Uchaguapi.

Puerto Yana is well-sheltered from N and W winds, but open to the S and SW. During southerly winds, rough seas penetrate the anchorage, making the vessels stay difficult.

Bajo Maule, a detached reef on which the sea breaks heavily during gales, lies about 3 miles offshore about 4 miles S of Morro Carnero and appears to extend E. Depths are sufficient for vessels to pass between it and the coast, but vessels are advised to pass well W of Bajo Maule.

**Punta Millomhue** (37°36'S., 73°39'W.) is rocky and about 41m high. Some above-water rocks extend about 0.1 mile N. From Punta Millomhue, the coast trends about 1.3 miles SSW to La Puntilla, the E entrance point of the Rio Lebu. This part of the coast consists of a sandy beach backed by dunes.

**5.36 Lebu** (37°38'S., 73°40'W.) ([World Port Index No. 14360](#)) lies in a bight between Punta Millomhue and Punta Tucapel, about 2.3 miles SW. The port facilities are situated at the W bank of the entrance to the Rio Lebu, and at the port of Lebu on the S bank of the Rio Lebu, about 0.7 mile within the entrance.

**Winds—Weather.**—In general, vessels may enter, anchor, and work cargo during the whole year. From January to April and from September to December, the predominant winds are N and allow an almost continuous working period, as do the predominant S winds from May to August. East and W winds are of short duration and occur during weather changes. Calms, although unusual, are distributed evenly throughout the year. During N storms, vessels change their anchorage to the harbor at Yana.

**Tides—Currents.**—An E current passes by Punta Tucapel, while a N current that may reach 5 knots flows N from the Rio Lebu. The two currents join, and flow NE. This NE current, coupled with a S wind, may severely strain the vessel's ground tackle.

**Depths—Limitations.**—Muelle Fiscal, 0.3 mile SE of Punta Tucapel Light, is 120m long, with a depth of 3m at its head; it was reported out of use.

**Anchorage.**—Vessels can anchor anywhere according to their draft, as the bay is free of dangers. The port captain will designate the anchorage. Ships at anchor may roll heavily, unless they are moored on a NW heading, as the swell caused by a SW wind penetrates the anchorage.

The following are anchor berths, with bearings and distances from Punta Tucapel Light:

1. Best berth—ENE, 0.5 mile, in depths of 14 to 16m, sand.
2. Recommended berth—083°, 0.5 mile, in a depth of about 11m, sand.
3. Recommended berth—078°, 0.4 mile.
4. Recommended berth—076°, 0.3 mile.
5. Quarantine anchorage—032°, 0.6 mile.
6. Explosives anchorage—058°, 0.73 mile.
7. Unloading ballast—051°, 0.8 mile.

**Caution.**—It was reported that the river was silted up and could only be used by small craft with drafts up to 2m.

A dangerous wreck lies 100°, 0.5 mile from Punta Tucapel Light

**5.37 Punta Tucapel** (37°37'S., 73°41'W.) attains a height of about 145m. It is precipitous to the W, but slopes more gently to the S. Roca Guapi, with a height of about 3.9m, lies about 0.2 mile N of Punta Tucapel.

A light is shown from the point and a radio mast, marked by obstruction lights, stands about 0.3 mile SSE of Punta Tucapel Light. A conspicuous tower stands about 2 miles SE of the point and can be seen from a considerable distance seaward. The mast of a stranded vessel lies 0.8 mile ESE of the light tower.

From Punta Tucapel to Punta Morguilla, about 8 miles S, the coast consists mostly of sandy beaches separated by projecting rocky points about 2 miles apart.

**Punta Morguilla** (37°44'S., 73°40'W.) is a small peninsula about 9.1m high. It is partly wooded and is joined to the coast by a sandy isthmus. Above-water rocks fringe the point on its

N and S sides, and rocks, awash, extend up to 0.8 mile S of the point outside the above-water rocks. A light is shown from Punta Morguilla.

From Punta Morguilla to Punta Nena, about 31 miles S, the coast forms a bight that recedes about 5 miles E. The coast, from 8.5 to 10.5 miles SSE of Punta Morguilla, is fringed with submerged rocks which extend about 0.5 mile offshore. Bajo Hassler, on which a depth of 23m was reported, lies about 25 miles WSW of Punta Morguilla.

Caleta Quidico is a small bight which lies on the E side of Punta Nena. The bight is sheltered from the SW by Punta Nena and the rocks which break and extend about 0.8 mile N. The bight recedes about 1 mile S between Punta Nena and a position about 2 miles E. It is open to the N. Depths across the entrance are from 5 to 6m and decrease gradually toward the head of the bay. Small vessels may take anchorage, in 6m, off the E side of Punta Nena.

Between Punta Nena and Punta Nihue, about 63 miles SSE, the coast consists mainly of low sandy beaches, with intermittent cliffs. Higher land backs the coast about 5 or 6 miles inland. The summits of the Andes are visible when the weather is clear, and the active volcano of Villa Rica, about 30 miles E of Tolten, mentioned below, is visible about 60 miles.

**Cabo Tirua** (38°22'S., 73°31'W.), about 8 miles S of Punta Nena, is rocky. The Rio Tirua flows into an inlet about 2.5 miles NNE of the cape. A light is exhibited at the river entrance.

**5.38 Isla Mocha** (38°23'S., 73°55'W.) lies about 18 miles W of Cabo Tirua. The island is steep-to on its W side, but slopes more gradually to the E. It attains an elevation of about 335m near the SW side of a wooded plateau, which lies in the center of the island. There are three aircraft landing strips on the island.

**Winds—Weather.**—North winds are most frequent in the vicinity of the island from October to April. South winds prevail from May to July. Thick weather occasionally lasts for days.

**Tides—Currents.**—Tidal currents attain a velocity of 1.5 knots with the rising tide and set N. The tidal current accompanying the falling tide sets S. Sometimes there is no current accompanying the falling tide for days and the current accompanying the rising tide then has the effect and appearance of a continuous N current.

**Punta Arvejas** (38°19'S., 73°58'W.), the NW extremity of the island, is low and composed of yellowish sand. From Punta Arvejas to Punta Anegadiza, about 6 miles SE, the coast is nearly straight. There are two small piers in Caleta La Hacienda, about 2.5 miles SE of Punta Arvejas. It is reported that one of the piers is out of service. A 4.1m spot lies outside the 9.1m curve, about 0.8 mile ENE of Caleta La Hacienda. A light is shown from a framework tower standing about 1 mile SSE of Punta Arvejas on the W side of the island.

Punta Anegadiza, the E extremity of the island, is low and sandy and has an abandoned lighthouse situated 0.5 mile SW of it. The entire E coast of the island is fringed by above and below-water rocks and foul ground to a distance of about 0.5 mile offshore.

**Anchorage.**—Vessels can take anchorage off Caleta La Hacienda, in 12.8m, with the pier bearing 202°, Punta Anegadiza

bearing 155°, and Cerro Los Chinos, a detached hill about 1 mile SE of Punta Arvejas, bearing 266°.

**Caution.**—Due to tide-rips caused by the meeting of the tidal currents, it is reported that the waters off Punta Anegadiza are dangerous for small craft.

**5.39 Punta Chales**, about 2.3 miles SSW of Punta Anegadiza, is the SE extremity of the island. The point is rocky and low.

A main light is shown from a tower, 8m high, standing about 0.2 mile NNE of the point.

Punta de las Islas, about 2.3 miles W of Punta Chales, is the SW extremity of the island. The point consists of a strip of sand covered with vegetation, which terminates in Isla de las Docas. Numerous islets, rocks, and below-water dangers fringe the S shore of the island up to about 3.5 miles S of it.

From Punta de las Islas the W coast of Isla Mocha trends irregularly N about 6 miles to Punta Arvejas. Islets, above and below-water rocks, reefs, and breakers fringe this coast. Morro de las Torrecillas lies about 2.8 miles NNW of Punta de las Islas. It is a dark and rocky promontory, about 15.2m high. Morro de las Torrecillas is prominent when seen from the N or S, but does not show up well from the W due to the sand dunes behind it. A white, round, disused light tower stands on Morro de las Torrecillas.

**5.40 Punta Manuel** (38°30'S., 73°31'W.) backed by the hills, lies 7.5 miles S of Cabo Tirua. The coast extending S of the point consists of precipitous cliffs.

Morro Cauten lies 11 miles SSE of Punta Manuel. The headland, about 90m high, is bare and cliffy.

The Rio Imperial empties into the sea about 6 miles SE of Morro Cauten. The original mouth of the river was displaced to its present position by a seaquake. The present mouth of the river is fronted by a shallow bar; the original mouth is silted up.

The **Rio Tolten** (39°14'S., 73°14'W.), about 34 miles SSE of Morro Cauten, is barely visible from 2 miles offshore. At the mouth of the river is a bar, on which the sea breaks.

**Aspect.**—Volcan Villarrica (39°28'S., 71°55'W.) rises about 60 miles E of the Rio Tolten mouth. It is an active volcano and reported to be visible up to 60 miles offshore.

**Caution.**—Due to the existence of submarine oil wells, a fishing prohibited area, the limits of which are shown on the chart, lies about 23 miles NW of the mouth of the Rio Tolten.

**5.41 Bahia Queule** (39°20'S., 73°13'W.) is located about 8 miles S of the mouth of the Rio Tolten. It occupies a bight between Punta Nihue, high and thickly wooded, and Punta Ronca, almost 5 miles S.

**Anchorage.**—Small vessels can take anchorage in the S part of the bay in Caleta Queule, in 8 to 9m, sand, almost 0.5 mile NE of Punta Choros, the NE extremity of Punta Ronca. The bay affords good anchorage, except during W and N winds when the sea breaks over the whole extent of the bay and makes it impossible to remain at anchor.

Punta Ronca is the steep-to and cliffy W extremity of Promontorio Queule, a peninsula which has the appearance of an island when seen from the N. Roca Martinez, with a depth of 4.6m, lies about 0.2 mile NNW of Punta Choros. A light is

shown from a framework tower standing about 0.2 mile S of Punta Choros.

**Caution.**—An isolated shoal, with a depth of 16m, was reported to lie about 22 miles W of Punta Ronca.

Bahia Maiquillahue is entered between Punta Ronca and Punta Maiquillahue, about 4 miles SSW. The depths in the bay vary from 11.9 to 18.3m, fine black sand. Caleta Maiquillahue, in the S part of the bay, is well-sheltered from SW wind. Coastal vessels use this cove for protection during the S gales which prevail in the summer. The best anchorage is in 14.6m, with Punta Ronca bearing 359° and the outer rocky islet off Punta Maiquillahue bearing 280°.

Punta Maiquillahue is low, but may be recognized by several rocky islets which extend about 1 mile NW from the point. Rocks and breakers fringe these islets.

**Morro Bonifacio** (39°42'S., 73°25'W.) about 15.5 miles SW of Punta Maiquillahue, is steep-to and fringed with below-water rocks. The higher part of the headland is well-wooded, and on its NW side there is a white peaked rock, which is prominent when seen from the N. Eastward of the point there is a range of mountains, the highest of which, Cerro Oncol, is about 671m high.

A light is shown from Punta Rocura, the NW extremity of Morro Bonifacio.

From Morro Bonifacio to Punta Juan Latorre, about 6.5 miles S, the coast forms a bay composed of sandy beaches separated by projecting rocky points, which are fringed with below-water rocks. Punta Loncoyen, the southernmost of these, is steep-to and lies about 1.3 miles N of Punta Juan Latorre.

**5.42 Punta Juan Latorre** (39°49'S., 73°25'W.), the E entrance point of Bahia de Corral, is somewhat steep-to with a low and level summit.

Bahia de Corral occupies a large bay between Punta Juan Latorre and Morro Gonzalo, about 3 miles WSW. The port of Corral is situated on the W shore of the bay, about 3.3 miles S of Punta Juan Latorre. Maximum size vessel entering the port is 180m length with a draft of 9.7m and 15,000 grt. Vessel moors to the buoy from astern using two anchors, usually paying out 8 shots on each. The Rio Valdivia empties on the E shore about 3 miles SSE of Punta Juan Latorre. The port of Valdivia lies about 8 miles within the mouth of the Rio Valdivia.

**Winds—Weather.**—Winds between the N and NW frequently bring bad weather and fogs. Fogs sometimes last two days and persist at the entrance to Bahia de Corral.

**Tides—Currents.**—The current accompanying the rising tide generally has a velocity of about 1 knot, increasing to about 2 knots between Morro Niebla and Punta del Conde. During the rainy season the current accompanying the rising tide is barely perceptible, but the velocity of the current accompanying the falling tide is increased by the falling rains to 3 or 4 knots, and in the vicinity of Morro Gonzalo it has a velocity of 5 to 6 knots. The currents at the entrance of Bahia de Corral and along the adjacent coast are somewhat irregular, depending on the season, tides, and prevailing winds.

**Aspect.**—From Punta Juan Latorre, the E shore of the bay trends irregularly S about 2.3 miles to Morro Niebla, and is composed mostly of sandy beaches. The cliffs at Morro Niebla

are perpendicular, reddish-colored, and about 35m high with a level summit. The point is fringed by black above-water rocks. It is easily recognized by the light structure, the barracks, and the battery on it.

**Pilotage.**—Pilotage is compulsory for both entering and mooring in Bahia de Corral, or when proceeding upriver to Valdivia. The pilot boards off Punta Armagos on the W side of the entrance and near Pena del Conde Beacon; VHF channels 13 and 16 are used.

**Anchorage.**—Vessels awaiting berths or a pilot may anchor to the N of Pena de la Conde, where there is 13.7m of water available. Vessels must enter or sail on a rising tide as there are strong currents on the ebb which may make any maneuvering highly dangerous. Vessels bound for Valdivia should not exceed 4.8m in draft.

**5.43 Isla Mancera** (39°52'S., 73°24'W.) rises in its center to a height of 87m. The plain surrounding the hill is cultivated and has some houses on it.

**Caleta San Carlos** (39°50'S., 73°26'W.) indents the coast between Punta Palo Muerto, a low and rocky point, and Punta San Carlos. The head of Caleta San Carlos is divided into two small coves by an area of foul ground that extends almost 0.1 mile offshore. The settlement of San Carlos, which can be identified by its chimneys, is situated in the SE cove. Punta San Carlos is the extremity of a rocky peninsula, on the summit of which are the ruins of a fort.

From Punta San Carlos, the W shore trends almost 1 mile SE to Punta Amargos, a low rocky point with the ruins of a fort on its summit. The ruined fort is difficult to distinguish. A group of above-water rocks, the NE of which is Punta del Conde, lies close NE of Punta Amargos.

From Punta Amargos to Punta Chorocamayo, about 0.2 mile S, the coast recedes about 0.1 mile W to form Bahia Amargos, a small bight with a sandy shore.

**Punta Fronton** (39°53'S., 73°23'W.), about 0.5 mile E of the SE end of Isla Mancera, is steep-to and covered with vegetation.

**Punta Carbonero** (39°52'S., 73°23'W.) is the S entrance point of the Rio Valdivia. The point is low, of blackish color, and backed by a high cliff with vegetation on it. The river provides access to Las Mulatas, the river port for Valdivia, about 7 miles upstream. A series of submerged training walls border the river channel to Valdivia.

Fogs are frequent in the river from May to August. In foggy weather, vessels are advised to anchor clear of the fairway and as close as possible to the bank, as even during fogs the passage of tugs and other small craft continues.

The river banks are lined with beacons which indicate the fairway. Lights are shown from some of the beacons. Special attention should be given to the steering in certain parts of the river, especially just below Valdivia. An anchor should always be ready to let go.

It was reported that vessels with a draft of 3.8m could navigate the river, preferably at half-tide.

Mooring buoys are situated 0.2 mile WNW and 0.1 mile NW of the lighted beacon, situated about 1 mile ENE of Punta Carbonero.

**Tides—Currents.**—The outgoing tidal current attains a velocity of 2 knots in summer, and a velocity of 4 knots in

winter. The incoming tidal stream is not felt in winter. In summer, it is advisable to navigate the river on the rising tide.

**5.44 Valdivia** (39°48'S., 73°15'W.) ([World Port Index No. 14340](#)) is situated on the S shore of the Rio Valdivia, about 7 miles from its entrance. The terrain in the vicinity of the town is wooded and hilly, and attains an elevation of about 305m.

At Las Mulatas, close SW of the city, there is a pier 126m in length with a depth of water alongside of 5.8m; the turning basin here is 600m wide with a depth of water in this area of 7.9m. There are two mooring buoys and a dolphin at either end of the pier. At the city itself there is a customs wharf 71m in length.

Vessels with cargo for Valdivia discharge to lighters at Puerto de Corral, which lies at the mouth of the river between the old Spanish forts of San Carlos to the W and Niebla to the E. Cargoes such as wheat, fertilizers, and lumber are handled here.

**5.45 Puerto de Corral** (39°52'S., 73°26'W.) ([World Port Index No. 14330](#)) is situated on the W shore of Bahía de Corral. All cargo operations are to lighters, which are then taken to Valdivia. There are no warehouses at Corral. The port has piers for small river passenger vessels.

**Depths—Limitations.**—Depending on its direction, the maximum wind speed for daylight entry into the port is 20 knots. For night maneuvers the wind speed must not exceed 5 knots.

Muelle Portuaria Corral is located at Punta Chorocamayo. Vessels up to 60,000 dwt, with a maximum length of 229m, can be accommodated. The maximum sailing draft is 12.2m. In general, all maneuvers at this jetty are carried out on a rising tide, in daylight, and with good visibility. Vessels over 120m long must use tugs.

There are three buoys at Bahía de Corral, with room for three vessels, except when the length of the vessels exceed 130m, then it is reduced to two buoys. Buoy No. 2 can accommodate vessels up to 20,000 dwt, with a length of 186m. Buoys 1 and 3 are for smaller vessels. Maximum draft at all buoys is 9.1m.

**Anchorage.**—Vessels up to 180m in length and 20,000 dwt, with drafts of 9.1m, enter this anchorage on the alignment of two beacons, bearing 195°. Vessels secure on a N heading with both anchors down, and their stern secured to a buoy.

Due to the limited maneuvering room and swift currents here, entrance is restricted to daylight only; entrance and departure are prohibited on an ebb current.

There are three anchorage areas within the port limits, which can accommodate vessels with a maximum draft, as follows:

1. Anchorage Area A—8.0m.
2. Anchorage Area B—6.5m.
3. Anchorage Area C—5.0m.

Large vessels anchor in the bay outside the port, about 0.6 mile NW of Morro Niebla, in depths of 12 to 13m, sand, good holding ground.

## Bahía Corral to Cabo Quedal

**5.46** The coast, from Morro Gonzalo through Cabo Quendal to Punta Chocó, is generally cliffy and fringed by many

rocks and reefs. Few anchorages are available here and offer poor shelter.

**Morro Gonzalo** (39°50'S., 73°28'W.) is a steep-to cliff about 160m high. It is slightly reddish in color and its summit is covered with trees. A light is shown from Morro Gonzalo.

Between Morro Gonzalo and Punta Chaihuin, about 9 miles SW, the coast recedes about 1.5 miles SW to form a bay, on the shores of which there are several rocky points.

Between Punta Chaihuin (39°55'S., 73°36'W.), high, rocky, and wooded, and Punta Galera, about 6.5 miles SW, the coast is indented by two large bights, Caleta Chaihuin and Caleta Guadei.

Caleta Chaihuin recedes about 1.3 miles SE between Punta Chaihuin and Punta Falsa Galera, about 5 miles WSW. The E shore of the cove is composed of a sandy beach 1 mile long. Islotes Loberia, a group of islets, lie about 0.1 mile offshore at the SE end of the bight. Cerro Chaihuin, 154m high, is a prominent conical hill with numerous white rocks on its slopes located about 2 miles SE of Punta Chaihuin. Vessels may take anchorage, in 20.1m, sand, about 0.5 mile offshore SSW of Punta Chaihuin, but are advised to proceed to Puerto de Corral and not use the anchorage at Caleta Chaihuin except in case of extreme necessity.

From Punta Falsa Galera to Punta Galera, about 2 miles S, the coast recedes almost 0.5 mile E and forms a bay. There are depths of 18.3 to 21.9m in the entrance, which decrease gradually toward the shore.

Caleta Guadei, at the S end of the bay, has depths of 4.6 to 12.8m. Vessels can take anchorage, in 23.8 to 32.9m off the head of the cove outside a line joining Punta Falsa Galera and Punta Galera, but should be prepared to put to sea on the first sign of bad weather from the N or W.

**5.47 Punta Galera** (39°59'S., 73°43'W.) is prominent. The point is low, wooded, and undulating. Altos de Valdivia, three prominent peaks about 472m high, back the point about 3 miles NE. A main light is shown from a prominent tower, 12m high, standing on the point.

From Punta Galera to Punta Colun, a steep-to and rocky point about 5.5 miles SSE, the coast consists of a beach of black sand.

**Punta Hueicolla** (40°09'S., 73°42'W.), the W entrance point of Caleta Hueicolla, is steep-to and rocky. A rock, on which the sea breaks constantly, lies about 0.3 mile N of Punta Hueicolla. Caleta Hueicolla has depths of 11 to 12.8m, sand, but is of little importance as it is exposed to W winds.

**Caleta Lameguapi** (40°11'S., 73°43'W.) recedes about 0.3 mile SE between an unnamed point and Punta Lameguapi, about 1 mile SW. The cove is sheltered from the S, but fully exposed to W winds.

**Anchorage.**—Anchorage can be taken, in 11 to 18.3m, black sand, about 0.3 mile offshore NE of Punta Lameguapi.

Piedra Lobos, an above-water rock surrounded by below-water rocks, lies close offshore about 0.8 mile WSW of Punta Lameguapi. Punta Escalera, about 2 miles SSE of Piedra Lobos, is steep-to, rocky, and backed by high hills.

Ensenada Dehui lies between Punta Escalera and Punta Dehui (40°14'S., 73°45'W.). It has depths of 7.3 to 14.6m, but is exposed to the prevailing winds and subject to heavy swells.

The Rio Bueno, which empties into Ensenada Dehui, is fronted by a shoal, shifting, dangerous bar which breaks, and is impassable by ocean-going vessels.

From Punta Dehui to Punta Trahuilco, about 3 miles SSW, the coast is steep-to and rocky. It is backed by mountains which rise to an elevation of about 1,006m, about 4.5 miles E of Caleta Milagro, described below in paragraph 5.48. Punta Trahuilco is rocky, and below-water rocks extend about 0.8 mile SW from the point.

**5.48 Farallones de Trahuilco** (40°20'S., 73°45'W.), a group of low above-water rocks, lie about 0.3 mile WSW of the N entrance point of Caleta Milagro.

Caleta Milagro recedes about 0.3 mile SW between its N entrance point, mentioned above, and Punta Milagro, about 0.7 mile SW. Anchorage can be taken, in 15m, sand, about 0.3 mile N of Punta Milagro. The cove is sheltered from the S, but the anchorage is not good. Some above and below-water rocks extend about 0.2 mile W from the point. El Farallon, a detached rock with a height of 14.9m, lies almost 0.7 mile W of Punta Milagro.

**Punta Pucatrihue** (40°25'S., 73°48'W.) is high, steep-to, and fringed by foul ground up to 0.5 mile off. Rada de las Banderas lies between Punta Pucatrihue and a point about 1.5 miles NNE. The cove is open from the N to WSW, and the anchorage is exposed to the ocean swell. Depths range from 12.8 to 33m, with a bottom of fine white sand and large stones. The S part of the bay affords the best shelter.

Roca Covadonga, a below-water rock over which the sea usually breaks, lies almost 1.5 miles offshore about 2.5 miles SSW of Punta Pucatrihue.

Rada Manzano, about 6.5 miles S of Punta Pucatrihue, affords anchorage, in 12.8 to 27.4m, sand. It is protected from winds between the E and S. Below-water rocks extend about 0.8 mile W from the N entrance point of the cove.

Farallones de Los Lobos, consisting of some black above and below-water rocks, extend about 1 mile offshore between the S entrance point of Rada Manzano and the N entrance point of Caleta Mansa, about 1.5 miles SSW.

**5.49 Caleta Mansa** (40°33'S., 73°46'W.), a small bay, has depths of 12.8 to 21.9m in its entrance. Two beacons situated on the SE shore, in line bearing 104°, lead into the bay. The approach to Caleta Mansa should only be made in daylight with clear weather, as the entrance is difficult to distinguish because of breakers. A light is shown from Punta Moquegua, the S entrance point of the bay.

A wharf, about 48m long, lies in a NE and SW direction in the N part of the cove. The wharf, which has depths of 7.9m at its seaward end, and 6.7m and 4.9m on its E and W sides, respectively, is connected to the shore N by a bridge, 183m long. Ships berthed at the wharf are sheltered from all but W winds. The E berth, with a depth of 6.7m alongside, is used by small vessels up to 80m in length with a maximum draft of 5m.

**Caleta Muicolpue** (40°34'S., 73°46'W.) lies between Punta Moquegua, the S entrance point of Caleta Mansa, and Punta Muicolpue, a wooded point a little over 0.8 mile SSW. Above

and below-water rocks extend about 0.1 mile W from Punta Moquegua, and below-water rocks extend about 91m off Punta Muicolpue. Caleta Muicolpue affords good shelter during S winds, but is completely exposed to W and NW winds. Anchorage may be taken, in 20.1 to 21.9m, sand, about 0.5 mile NW of the mouth of the Rio Muicolpue, at the head of the cove.

**5.50** The coast from Punta Muicolpue to Punta Llesquehue, about 6 miles SW, is rocky and steep-to. Between Punta Llesquehue and Cabo Quedal, about 20 miles SSW, the irregular coast is generally steep-to with intermittent sandy beaches. It is indented by numerous bays and bights.

**Morro del Compas** (40°42'S., 73°52'W.), about 3.5 miles S of Punta Llesquehue, is rocky, steep-to, and wooded to its summit.

Rada de Ranu recedes about 1 mile SE between Morro del Compas and the N entrance point of the Rio Hueyelhue, about 1.5 miles NNE. The N entrance point of the cove is high and steep-to; below-water rocks and breakers extend almost 0.3 mile off it. Three rocks, awash and surrounded by below-water rocks, lie about 0.8 mile WNW of the N entrance point of Rada de Ranu. The cove affords anchorage in its SE part during S winds, in depths of from 20.1 to 28m, sand, about 0.3 mile off-shore NW of the head of the cove.

**Punta Condor** (40°45'S., 73°54'W.) is high and steep-to. Caleta Condor lies between Punta Condor and the S entrance point of the Rio Chaluaco, about 1 mile NE. Depths decrease gradually from 37 to 40m in the center of the entrance to about 7.3m near the shore. The N and S shores of the cove are rocky, steep-to, and densely wooded. The cove provides shelter from S winds, but cannot be recommended.

Cabo San Antonio, about 6 miles S of Punta Condor, is high and covered with vegetation. Below-water rocks fringe the coast between Cabo San Antonio and the N entrance point of Bahia San Pedro, and lie up to 0.2 mile offshore.

**Punta San Pedro** (40°56'S., 73°53'W.) is the S entrance point of Bahia San Pedro. The point is somewhat high. Above and below-water rocks lie up to 0.3 mile off the point and from the coast SW to Cabo Quedal. Farallones de San Pedro, a group of above and below-water rocks, lie with their NW extremity almost 1.5 miles WNW of Punta San Pedro. There is a clear channel about 0.3 mile wide, with depths in the fairway of from 12.8 to 37m between these rocks and the coast SE.

Bahia San Pedro recedes almost 2 miles between Punta San Pedro and a position about 3.8 miles N. The bay has depths of from 11.9 to 16.5m from 0.3 to 0.7 mile off its head, but is exposed to swells from NW.

**5.51 Cabo Quedal** (40°59'S., 73°57'W.) lies about 8 miles SSW of Cabo San Antonio. The cape is high and precipitous, and the most prominent point in the vicinity. Several moderately-high hills back Cabo Quedal to the E. The shore of the cape is fronted by submerged rocks. A main light is shown from a tower, 8m high, standing on the cape. A small cove, about 1.5 miles NE of the cape, has a sandy beach with two streams emptying into it.